

SEARCH REQUEST FORM**Scientific and Technical Information Center**

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 11-1-05
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/812,074
 Mail Box and Bldg/Room Location: 9D60 (Rm.) Results Format Preferred (circle): RAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. See B.b.

Inventors (please provide full names): _____
 SCIENTIFIC REFERENCE BR
 Sci & Tech Inf. Ctr.

NOV 3 RECD

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number. Pat. & T.M. Office

Please search for the resin or polymer
 that contains the a group ^(as a pendant group) represented by
 formula (X) shown in Cl. #1

This polymer or resin is used together with
 a photoacid generator or (acid-generating
 compound).

* In case there are too many hits
 (although I doubt,
 Please cross ~~to~~ search with
acid cleavable words like acid labile acid decomposable
or acid dissociable

STAFF USE ONLY**Type of Search****Vendors and cost where applicable**

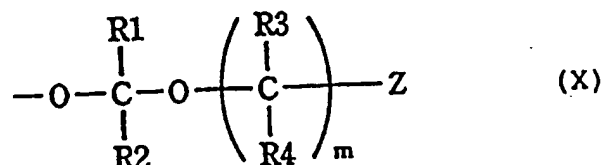
Searcher: <u>WKE</u>	NA Sequence (#) _____	STN <u>#60865</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>11/9/05</u>	Bibliographic _____	Dr. Link _____
Date Completed: <u>11/9/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>40</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>100</u>	Other _____	Other (specify) _____

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A positive resist composition comprising (a) a resin that is decomposed by the action of an acid to increase solubility in an alkali developing solution, contains a structural unit having a group represented by formula (X) shown below, has a weight average molecular weight of not more than 5,000, and contains an acid decomposable group in an amount of not more than 40% based on the sum total of a number of the acid decomposable group and a number of an alkali-soluble group not protected with the acid decomposable group, and (b) a compound that generates an acid upon irradiation of an actinic ray or radiation:



in formula (X), R1 and R2, which may be the same or different, each represent a hydrogen atom or an alkyl group having from 1 to 4 carbon atoms; R3 and R4, which may be the same or different, each represent a hydrogen atom or an alkyl group; Z represents a phenyl group or an alicyclic group; and m represents an integer of from 1 to 20.

2. (original): The positive resist composition as claimed in Claim 1, which further comprises a nitrogen-containing basic compound.

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:15:20 ON 09 NOV 2005

=> d his ful

FILE 'HCAPLUS' ENTERED AT 10:48:35 ON 09 NOV 2005

L1 1 SEA ABB=ON PLU=ON US20040197702/PN
D SCAN
SEL RN

FILE 'REGISTRY' ENTERED AT 10:48:56 ON 09 NOV 2005

L2 21 SEA ABB=ON PLU=ON (103983-46-6/BI OR 1122-58-3/BI OR
126657-21-4/BI OR 1320-67-8/BI OR 144317-44-2/BI OR
153698-46-5/BI OR 18370-86-0/BI OR 19600-49-8/BI OR
197447-16-8/BI OR 2049-95-8/BI OR 212555-24-3/BI OR
24979-70-2/BI OR 270563-96-7/BI OR 279218-84-7/BI OR
31814-77-4/BI OR 359434-73-4/BI OR 484-47-9/BI OR
51-17-2/BI OR 631-61-8/BI OR 75-59-2/BI OR 84540-57-8/B
I)
D SCAN

FILE 'LREGISTRY' ENTERED AT 11:03:48 ON 09 NOV 2005

L3 STR

FILE 'REGISTRY' ENTERED AT 11:05:39 ON 09 NOV 2005

L4 SCR 2043
L5 38 SEA SSS SAM L3 AND L4
L6 STR L3
L7 38 SEA SSS SAM L6 AND L4
L8 STR L3
L9 23 SEA SSS SAM L8 AND L4
D QUE STAT L9
L10 STR L8
L11 8 SEA SSS SAM L10 AND L4
D SCAN
L12 STR L10
L13 1 SEA SSS SAM L12 AND L4
D SCAN
D QUE STAT L13
L14 STR L12
L15 12 SEA SSS SAM L14 AND L4
DIS SIA L12
L16 STR L12
L17 1 SEA SSS SAM L16 AND L4
D SCAN
D QUE STAT L17
L18 218 SEA SSS FUL L16 AND L4
SAV L18 LEE074/A
L19 0 SEA ABB=ON PLU=ON L18 AND L2

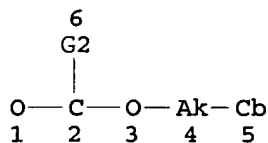
FILE 'HCAPLUS' ENTERED AT 12:24:20 ON 09 NOV 2005

L20 167 SEA ABB=ON PLU=ON L18
L21 20 SEA ABB=ON PLU=ON L20 AND ACID? (A) (LABILE? OR
DECOMPOS? OR CLEAV? DISSOC?)
L26 97 SEA ABB=ON PLU=ON L20 AND (PHOTO(A)ACID OR PHOTOACID?
OR ACID) (2A)GENERAT?
L27 71 SEA ABB=ON PLU=ON L26 AND ?RESIST? (A) COMPOSITION?
L28 58 SEA ABB=ON PLU=ON L27 NOT L21
L29 40 SEA ABB=ON PLU=ON L28 AND POS? (2A) ?RESIST?
L30 40 SEA ABB=ON PLU=ON L29 AND PHOTO?/SC

L31 60 SEA ABB=ON PLU=ON L30 OR L21
SEL L31 HIT RN 1-

=> d que l31

L4 SCR 2043
L16 STR



VAR G2=H/AK
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 1
CONNECT IS E2 RC AT 4
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X20 C AT 4

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L18 218 SEA FILE=REGISTRY SSS FUL L16 AND L4
L20 167 SEA FILE=HCAPLUS ABB=ON PLU=ON L18
L21 20 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND ACID? (A) (LABIL
E? OR DECOMPOS? OR CLEAV? DISSOC?)
L26 97 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND (PHOTO(A)ACID
OR PHOTOACID? OR ACID) (2A)GENERAT?
L27 71 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND ?RESIST? (A) COM
POSITION?
L28 58 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 NOT L21
L29 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND POS? (2A) ?RESIS
T?
L30 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 AND PHOTO?/SC
L31 60 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 OR L21

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 13:15:36 ON 09 NOV 2005

=> d l31 1-60 ibib abs hitstr hitind

L31 ANSWER 1 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:1074667 HCAPLUS
DOCUMENT NUMBER: 143:356626
TITLE: Electron beam-, x-ray- or EUV-sensitive
positive-working resist
composition and method for pattern
formation using the same
INVENTOR(S): Mizutani, Kazuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005274878	A2	20051006	JP 2004-86840	2004 0324
PRIORITY APPLN. INFO.:			JP 2004-86840	2004 0324

GI

$R^3-CH(X)-Y^1-(Z^1-A-Z^2)_r-Y^2-CH(X)-R^3$ I

AB The composition contains 2 kinds of acid-sensitive alkali-solubilizable resins having same repeating unit with different repeating unit ratio and a radiation-sensitive **acid generator**, wherein the resin contain repeating unit I and II (Z = OH, halo, cyano, etc.; A1 = acid-sensitive decomposable group; m,n = 0-4). The composition shows high sensitivity and provides pattern of high resolution and good profile.

IT 279244-37-0P
(resins in electron beam-, x-ray- or EUV-sensitive **pos** .-working **resist composition**)

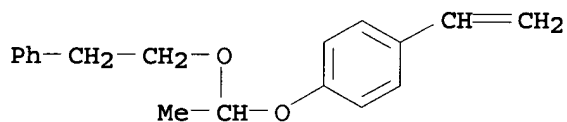
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

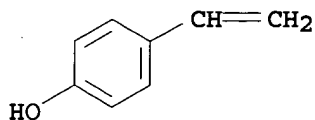
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS G03F007-033; H01L021-027
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 37
 ST **resist compn resin acid**
generator
 IT Electron beam lithography
 Photolithography
Positive photoresists
 X-ray lithography
 (electron beam-, x-ray- or EUV-sensitive **pos.-working**
resist composition and method for pattern
 formation using the same)
 IT Electron beam **resists**
 X-ray **resists**
 (**pos.**; electron beam-, x-ray- or EUV-sensitive
pos.-working resist composition and
 method for pattern formation using the same)
 IT 19600-49-8P 133710-62-0P 144317-44-2P 197447-16-8P
 227199-92-0P 258341-98-9P 389859-76-1P 441296-92-0P
 (**acid generator** in electron beam-, x-ray-
 or EUV-sensitive **pos.-working resist**
composition)
 IT 935-04-6DP, Benzyl vinyl ether, reaction product with
 hydroxystyrene copolymer 200808-68-0DP, 4-Hydroxystyrene-tert-
 butyl acrylate-styrene copolymer, reaction product with benzyl
 vinyl ether 279244-35-8P 279244-37-0P 503003-65-4P
 754191-48-5P 866021-36-5P 866021-37-6P 866021-38-7P
 (resins in electron beam-, x-ray- or EUV-sensitive **pos**
.-working resist composition)

L31 ANSWER 2 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1048423 HCAPLUS

DOCUMENT NUMBER: 143:336291

TITLE: **Positive photoresist**
composition for use with electron
 beam, EUV light or x ray, and pattern
 formation method using the same

INVENTOR(S): Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 73 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1580601	A1	20050928	EP 2005-6536	2005 0324
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
JP 2005275283	A2	20051006	JP 2004-92091	

US 2005221224 A1 20051006 US 2005-90864 2004
0326
2005
0328
PRIORITY APPLN. INFO.: JP 2004-92091 A 2004
0326

AB A pos. resist composition for use with an electron beam, an EUV light or an X ray, the pos. resist composition comprises: (A) at least one compound that generates an acid upon treatment with one of an actinic ray and radiation; and (B) a resin that increases a solubility of the resin (B) in an alkaline developer by an action of an acid, wherein the resin (B) comprises a repeating unit having an alicyclic group connected with a fluorine-substituted alc. residue; and a pattern formation method using the composition

IT 865370-74-7P 865370-83-8P
(preparation or polymer for pos. photoresist composition)

RN 865370-74-7 HCAPLUS

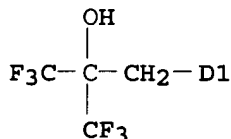
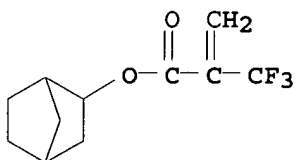
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 5(or 6)-[3,3,3-trifluoro-2-hydroxy-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl ester, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 585571-44-4

CMF C15 H15 F9 O3

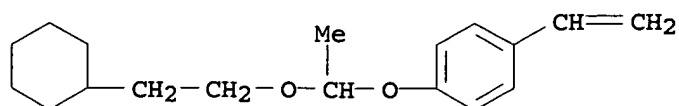
CCI IDS



CM 2

CRN 288620-12-2

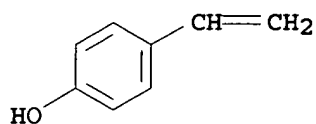
CMF C18 H26 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



RN 865370-83-8 HCAPLUS

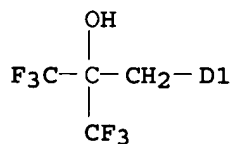
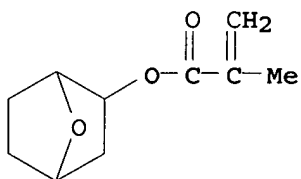
CN 2-Propenoic acid, 2-methyl-, 5(or 6)-[3,3,3-trifluoro-2-hydroxy-2-(trifluoromethyl)propyl]-7-oxabicyclo[2.2.1]hept-2-yl ester, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 865370-81-6

CMF C14 H16 F6 O4

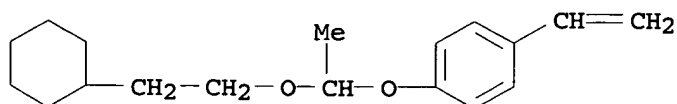
CCI IDS



CM 2

CRN 288620-12-2

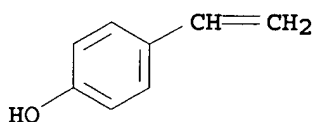
CMF C18 H26 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS G03F007-004

CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38

ST **pos photoresist compn** electron beam
 EUV light x ray

IT **Positive photoresists**

(**pos. photoresist composition** for use
 with electron beam, EUV light or x ray, and pattern formation)

IT 1511-10-0P 19600-49-8P 144089-15-6P 144317-44-2P
 251463-24-8P 270563-93-4P 270563-96-7P 335199-99-0P
 389859-76-1P 454471-05-7P 509097-30-7P 754191-59-8P
 862261-51-6P 865370-34-9P

(**photoacid generator; pos.**
photoresist composition containing)

IT 865370-69-0P 865370-70-3P 865370-71-4P 865370-72-5P
 865370-73-6P **865370-74-7P** 865370-75-8P 865370-76-9P
 865370-77-0P 865370-79-2P 865370-80-5P 865370-82-7P
865370-83-8P

(preparation or polymer for **pos. photoresist**
composition)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L31 ANSWER 3 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1023855 HCAPLUS

DOCUMENT NUMBER: 143:315460

TITLE: **Positive-working resist**
composition for electron beam, x-ray,
 and EUV lithography and method of forming
 pattern using the same

INVENTOR(S): Mizutani, Kazuyoshi; Kodama, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 69 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005258124	A2	20050922	JP 2004-70239	2004 0312
PRIORITY APPLN. INFO.:			JP 2004-70239	2004 0312

AB Disclosed a **pos.-working resist compn**
 . comprising (a) a compound capable of **generating** sulfonic
acid having a sp. structure upon receiving an active ray
 or radiation and (b) a resin which has a sp. repeating unit and
 decomp. upon an interaction with an acid, thereby increasing its
 solubility in an alkali developer.

IT 288620-13-3
 (resin; **Pos.-working resist compn**
 . for electron beam, x-ray, and EUV lithog.)

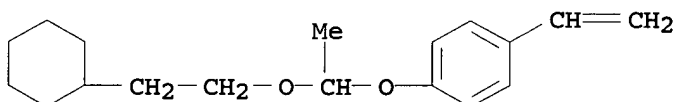
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
 4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

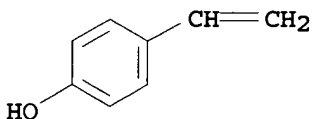
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-004
 ICS C08F012-22; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38

ST **pos working resist photoresist**
 electron beam x ray EUV; photolithog lithog sulfonic acid alkali
 sol resin

IT Electron beam lithography
 Electron beam **resists**

Lithography
Photolithography

Resists

X-ray lithography

X-ray resists

(Pos.-working resist composition for
electron beam, x-ray, and EUV lithog.)

IT Sulfonic acids, uses

(Pos.-working resist composition for
electron beam, x-ray, and EUV lithog.)

IT Photoresists

(UV; Pos.-working resist composition
for electron beam, x-ray, and EUV lithog.)

IT 852245-64-8 852245-67-1 852245-69-3 852245-71-7
852245-73-9 852245-74-0 864837-82-1 864837-85-4

(acid generating agent; Pos
.-working resist composition for electron beam,
x-ray, and EUV lithog.)

IT 177034-75-2 199432-82-1 200808-68-0 288620-13-3
325143-38-2 326591-96-2 610301-50-3 864837-87-6
864837-90-1 864837-91-2

(resin; Pos.-working resist compn
. for electron beam, x-ray, and EUV lithog.)

L31 ANSWER 4 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:963170 HCAPLUS

DOCUMENT NUMBER: 143:275613

TITLE: **Positive-working photoresist
composition** and method for pattern
formation using the same

INVENTOR(S): Iwato, Kaoru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

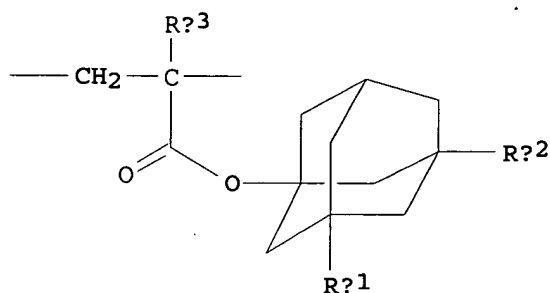
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005234449	A2	20050902	JP 2004-46285	

2004
0223

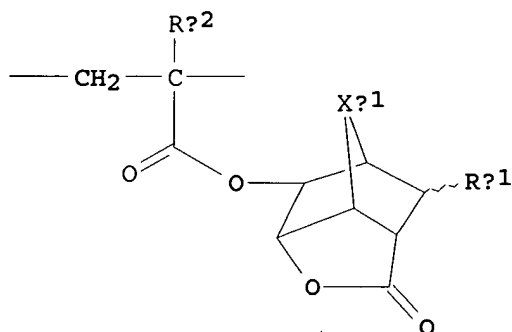
PRIORITY APPLN. INFO.: JP 2004-46285

2004
0223

GI



I



II

AB The title composition contains an acid-sensitive alkali-solubilizable resin and a **photoacid generator**, wherein the resin contains a repeating unit $[-CH_2-(Ra1)\{-COO-CH_2(ORa2)\}C-]$ ($Ra1 = H, \text{ alkyl}; Ra2 = \text{mono-valent organic group}$) and a repeating unit chosen from I-II ($Rb1-2 = H, OH; Rb3 = H, \text{ methyl}; Rc1 = H, \text{ mono-valent organic group}; Xc1 = -CH_2-, -O-, -S-; Rc2 = H, \text{ methyl}$) and $[-CH_2-(Rd2)\{-COO-C(Rd1)_3\}C-]$ ($Rd1 = \text{alkyl, cycloalkyl}; Rd2 = H, \text{ methyl}$). The composition provides good profile pattern with decreased dependence on post exposure baking temperature, exposure margin, and process margin.

IT 863672-74-6P 863672-84-8P 863672-90-6P
863672-92-8P

(resin in pos.-working photoresist composition)

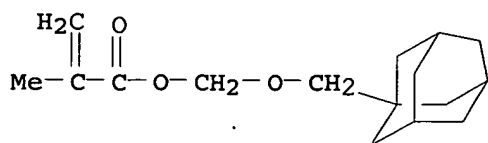
RN 863672-74-6 HCAPLUS

CN 3,5-Methano-2H-cyclopenta[b]furan-7-carboxylic acid, hexahydro-6-[(2-methyl-1-oxo-2-propenyl)oxy]-2-oxo-, methyl ester, polymer with 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate and (tricyclo[3.3.1.1^{3,7}]dec-1-ylmethoxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 863198-38-3

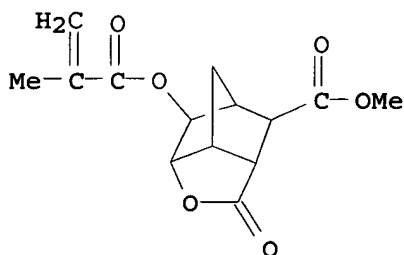
CMF C16 H24 O3



CM 2

CRN 274247-93-7

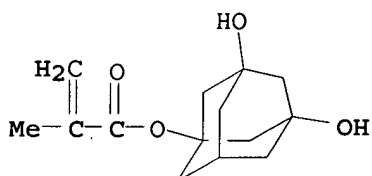
CMF C14 H16 O6



CM 3

CRN 115522-15-1

CMF C14 H20 O4



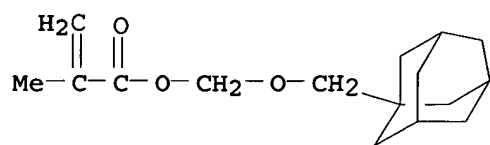
RN 863672-84-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1.3]dec-1-yl ester, polymer with hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate, 1-methyl-1-tricyclo[3.3.1.1.3]dec-1-ylethyl 2-methyl-2-propenoate and (tricyclo[3.3.1.1.3]dec-1-ylmethoxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 863198-38-3

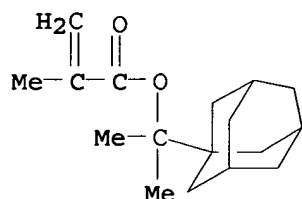
CMF C16 H24 O3



CM 2

CRN 279218-76-7

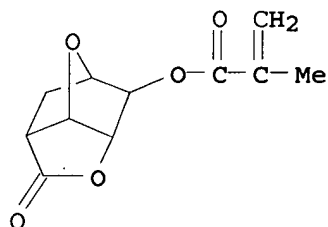
CMF C17 H26 O2



CM 3

CRN 274248-05-4

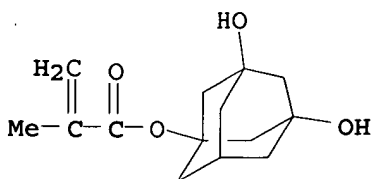
CMF C11 H12 O5



CM 4

CRN 115522-15-1

CMF C14 H20 O4



RN 863672-90-6 HCAPLUS

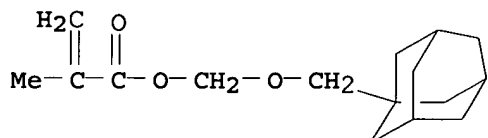
CN 3,5-Methano-2H-cyclopenta[b]furan-7-carboxylic acid,
hexahydro-6-[(2-methyl-1-oxo-2-propenyl)oxy]-2-oxo-, methyl ester,

polymer with (tricyclo[3.3.1.1^{3,7}]dec-1-ylmethoxy)methyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 863198-38-3

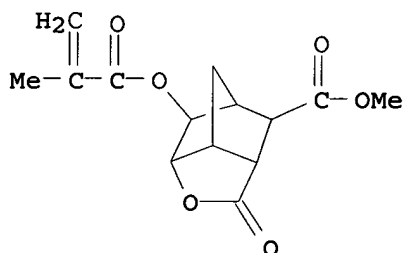
CMF C16 H24 O3



CM 2

CRN 274247-93-7

CMF C14 H16 O6



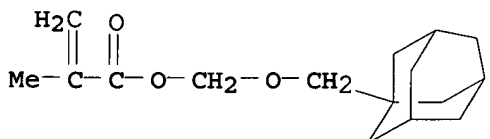
RN 863672-92-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate and (tricyclo[3.3.1.1^{3,7}]dec-1-ylmethoxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 863198-38-3

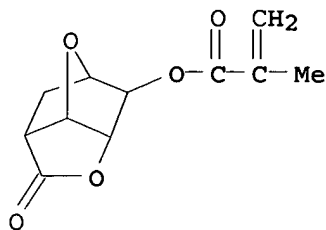
CMF C16 H24 O3



CM 2

CRN 274248-05-4

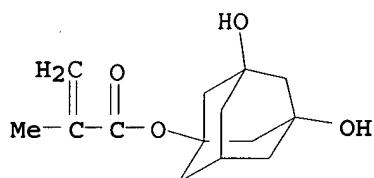
CMF C11 H12 O5



CM 3

CRN 115522-15-1

CMF C14 H20 O4



IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 37

ST **pos photoresist compn resin**

IT Photolithography

Positive photoresists

(**pos.-working photoresist composition**
 and method for pattern formation using the same)

IT 115372-36-6DP, polymers with methacrylates 209982-56-9DP,
 polymers with methacrylates 863672-66-6P 863672-68-8P
 863672-70-2P 863672-72-4P **863672-74-6P**
 863672-76-8DP, polymers with methacrylates 863672-77-9P
 863672-79-1P 863672-81-5P **863672-84-8P** 863672-86-0P
 863672-88-2P **863672-90-6P 863672-92-8P**
 (resin in **pos.-working photoresist**
composition)

L31 ANSWER 5 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:960460 HCAPLUS

DOCUMENT NUMBER: 143:275608

TITLE: Electronic beam, EUV light, or x-ray
positive-working resist
composition and method of of forming
 pattern using the same

INVENTOR(S): Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 90 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005234434	A2	20050902	JP 2004-46087	2004 0223

PRIORITY APPLN. INFO.:

JP 2004-46087

2004
0223

AB Disclosed is an electronic beam, EUV light, or x-ray pos
.-working **resist composition** comprising (a) a resin
which increases its solubility in an alkali developer upon reaction
with an acid, (b) an **acid generating agent**
5-20% on the basis of the total solid component in the composition, and
(c) a sp. compound

IT 279244-37-0 288620-15-5

(resin; electronic beam, EUV light, or x-ray pos
.-working **resist composition**)

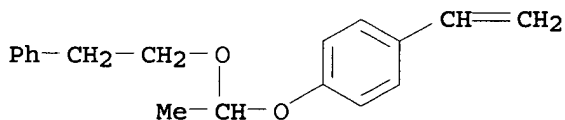
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-
phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

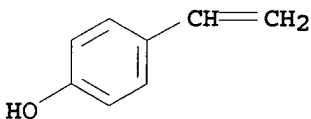
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



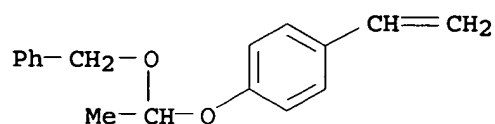
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(
phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

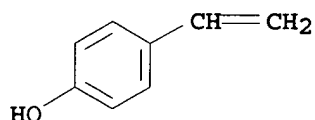
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039
ICS C08F212-14; C08F220-10; G03F007-004; G03F007-033; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76

ST electronic beam extreme UV x ray **pos resist**
photoresist

IT Electron beam resists
Photoresists
X-ray resists
(electronic beam, EUV light, or x-ray **pos.-working**
resist composition)

IT 13891-29-7 144089-15-6 144317-44-2 153698-46-5 251463-24-8
270563-93-4 335199-99-0 509097-30-7
(**acid generator**; electronic beam, EUV
light, or x-ray **pos.-working resist**
composition)

IT 142952-62-3, p-(t-Butoxycarbonylmethyloxy)styrene-p-hydroxystyrene
copolymer 158593-28-3 **279244-37-0 288620-15-5**
754191-41-8 754191-45-2 754191-48-5 754191-50-9
782502-12-9, 2-Ethyladamantyl methacrylate-p-hydroxystyrene-
styrene copolymer
(resin; electronic beam, EUV light, or x-ray **pos**
.-working resist composition)

IT 500-38-9 31127-54-5 52479-85-3 188831-95-0 863508-28-5
863508-29-6 863508-30-9 863508-32-1 863508-33-2
863558-99-0
(sp. compound; electronic beam, EUV light, or x-ray **pos**
.-working resist composition)

L31 ANSWER 6 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:901984 HCAPLUS

DOCUMENT NUMBER: 143:257056

TITLE: **Positive resist**
composition and pattern forming method
using the same

INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 35 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1566694	A1	20050824	EP 2005-3531	2005 0218
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
US 2005186506	A1	20050825	US 2005-60533	2005 0218
JP 2005266801	A2	20050929	JP 2005-42327	2005 0218
PRIORITY APPLN. INFO.:			JP 2004-44693	A 2004 0220

AB A **pos. resist composition** satisfying all of high sensitivity, high resolution, good pattern profile, good line edge roughness and good in-vacuum PED characteristics, is provided. The **pos. resist composition** comprises: (A) a resin containing a repeating unit having a specific styrene skeleton, which is insol. or hardly soluble in an alkali developer and becomes soluble in an alkali developer under the action of an acid; (B) a compound capable of **generating** an acid upon irradiation with actinic rays or radiation; and (C) an organic basic compound, and a pattern formation method using the **pos. resist composition**

IT 863223-93-2P 863224-08-2P
 (pos. resist composition for pattern forming method containing)

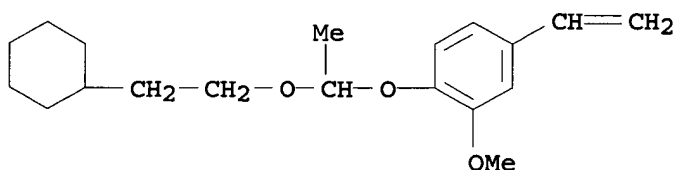
RN 863223-93-2 HCAPLUS

CN Phenol, 4-ethenyl-2,6-dimethoxy-, polymer with
 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenyl-2-methoxybenzene (9CI)
 (CA INDEX NAME)

CM 1

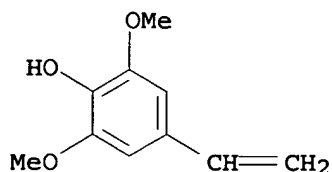
CRN 863223-92-1

CMF C19 H28 O3



CM 2

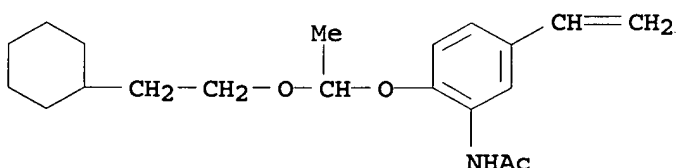
CRN 28343-22-8
CMF C10 H12 O3



RN 863224-08-2 HCAPLUS
CN Acetamide, N-[2-[1-(2-cyclohexylethoxy)ethoxy]-5-ethenylphenyl]-, polymer with N-(5-ethenyl-2-hydroxyphenyl)acetamide (9CI) (CA INDEX NAME)

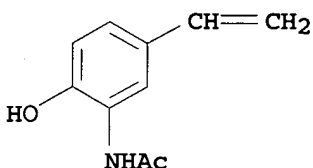
CM 1

CRN 863224-07-1
CMF C20 H29 N O3



CM 2

CRN 863224-06-0
CMF C10 H11 N O2



IC ICM G03F007-004
ICS G03F007-039
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76
ST **pos resist compn** photolithog
IT Photolithography
Positive photoresists
(pos. resist composition for pattern forming method)
IT 18370-86-ODP, 2-Phenoxyethyl vinyl ether, reaction product with hydroxy group of a hydroxy styrene polymer 32440-04-3DP, 3-Methoxy-4-acetoxystyrene homopolymer, hydrolyzed then hydroxy group reacted with a vinyl ether 863223-84-1DP, hydrolyzed then

hydroxy group reacted with a vinyl ether 863223-85-2DP,
 tert-Butyl acrylate-3-Methoxy-4-acetoxy styrene copolymer,
 hydrolyzed 863223-87-4P 863223-89-6P 863223-91-0P
863223-93-2P 863223-96-5P 863223-99-8P 863224-01-5P
 863224-03-7P 863224-05-9P **863224-08-2P** 863224-10-6P
 863224-11-7P 863224-12-8P 863224-13-9P 863224-14-0P
 863224-15-1P 863224-16-2P 863224-18-4P 863224-19-5P
 863224-20-8P 863224-22-0P 863224-24-2P 863224-25-3P
 863224-27-5P

(pos. resist composition for pattern
 forming method containing)

IT 1320-67-8, Propylene glycol monomethyl ether 84540-57-8,
 Propylene glycol monomethyl ether acetate

(pos. resist composition for pattern
 forming method containing)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L31 ANSWER 7 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:695839 HCAPLUS

DOCUMENT NUMBER: 143:183146

TITLE: Method for forming precise patterns in high
 resolution and low line edge roughness and
positive photoresist
compositions therefor

INVENTOR(S): Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

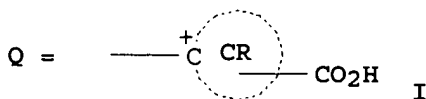
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005208366	A2	20050804	JP 2004-15215	2004 0123

PRIORITY APPLN. INFO.: JP 2004-15215

2004
0123

GI



AB The compns. comprise (A) resins which contain repeating units
 having (X1) OCR1R2O(CR3R4)mZ1 groups [R1, R2 = H, alkyl; R3, R4 =
 H, (cyclo)alkyl; Z1 = alkyl, aryl, alicyclic hydrocarbyl; m =
 0-20] or (X2) OCR5R6OWYZ2 groups (R5, R6 = H, alkyl; W = divalent
 linking group; Y = O, OCO, CO2, NHCO, CONH, S, SO2, SO3; Z2 = same

as Z1) and repeating units having (Y1) Q (CR = cyclic hydrocarbon) and are decomposable by acids to increase alkali solubility and (B) compds. **generating acids** (e.g., organic sulfonic acids, carboxylic acids) by actinic ray or radiation. In the process, the compns. are formed into films, exposed to electron beams, x-ray, or EUV, and developed by alkaline developers to give patterns.

IT 860627-95-8P 860627-96-9P

(pos. photoresist compns. for forming precise patterns in high resolution and low line edge roughness)

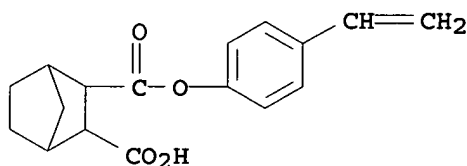
RN 860627-95-8 HCAPLUS

CN Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid, mono(4-ethenylphenyl) ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 860627-94-7

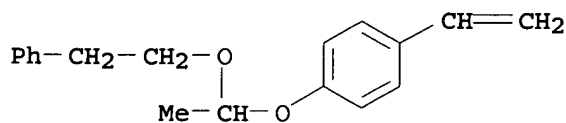
CMF C17 H18 O4



CM 2

CRN 246157-37-9

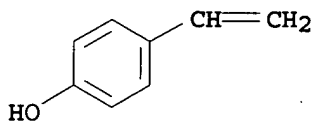
CMF C18 H20 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



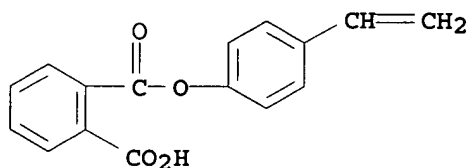
RN 860627-96-9 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, mono(4-ethenylphenyl) ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 604813-53-8

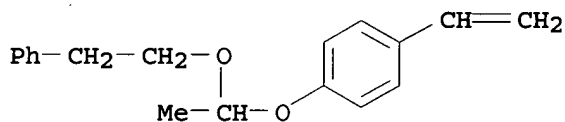
CMF C16 H12 O4



CM 2

CRN 246157-37-9

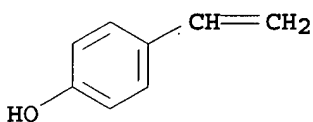
CMF C18 H20 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **pos photoresist** resolu line edge roughness;
 carboxylic sulfonic acid photoacid
 generator photoresist; electron beam extreme UV x ray
 lithog; hydroxystyrene carboxylbenzoxystyrene copolymer ether
pos photoresist

IT Photolithography
 (UV, extreme; **pos. photoresist**
compns. for forming precise patterns in high resolution
 and low line edge roughness)

IT Carboxylic acids, uses

Sulfonic acids, uses

(organic; **pos. photoresist compns.**

for forming precise patterns in high resolution and low line edge roughness)

IT Electron beam lithography

Positive photoresists**X-ray lithography**

(pos. photoresist compns. for forming precise patterns in high resolution and low line edge roughness)

IT 19600-49-8 197447-16-8 270563-96-7 365971-84-2 389859-76-1

(photoacid generators; pos.

photoresist compns. for forming precise

patterns in high resolution and low line edge roughness)

IT 935-04-6DP, Benzyl vinyl ether, ether with p-hydroxystyrene-4-(2'-carboxylbenzoxyoxy)styrene copolymer 860627-91-4P 860627-92-5P
860627-93-6P 860627-95-8P 860627-96-9P

860627-97-0P 860627-98-1P 860627-99-2P 860628-00-8P

860628-01-9P

(pos. photoresist compns. for

forming precise patterns in high resolution and low line edge roughness)

L31 ANSWER 8 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:695838 HCAPLUS

DOCUMENT NUMBER: 143:183145

TITLE: Method for forming precise patterns in high resolution and low line edge roughness and positive photoresist compositions therefor

INVENTOR(S): Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005208365	A2	20050804	JP 2004-15214	2004 0123

PRIORITY APPLN. INFO.: JP 2004-15214

2004
0123

AB The compns. comprise (A) resins which contain repeating units having (X1) OCR1R2O(CR3R4)mZ1 groups [R1, R2 = H, alkyl; R3, R4 = H, (cyclo)alkyl; Z1 = alkyl, aryl, alicyclic hydrocarbyl; m = 0-20] or (X2) OCR5R6OWYZ2 groups (R5, R6 = H, alkyl; W = divalent linking group; Y = O, OCO, CO2, NHCO, CONH, S, SO2, SO3; Z2 = same as Z1) and repeating units having (Y1) CONHSO2Z3 (Z3 = same as Z1) or (Y2) SO2NHCOZ4 groups (Z4 = same as Z1) and are decomposable by acids to increase alkali solubility and (B) compds. **generating acids** (e.g., organic sulfonic acids, carboxylic acids) by actinic ray or radiation. In the process, the compns. are formed into films, exposed to electron beams, x-ray, or EUV, and developed by alkaline developers to give patterns.

IT 860605-31-8P

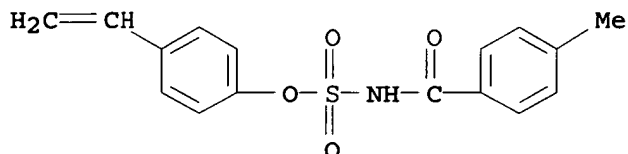
(pos. photoresist compns. for

forming precise patterns in high resolution and low line edge roughness)

RN 860605-31-8 HCAPLUS
 CN Sulfamic acid, (4-methylbenzoyl)-, 4-ethenylphenyl ester, polymer
 with 4-ethenylphenol and 1-ethenyl-4-[1-(2-
 phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

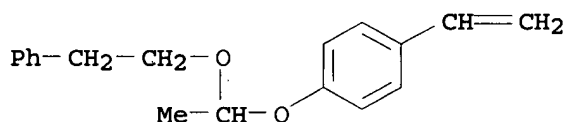
CM 1

CRN 860605-30-7
 CMF C16 H15 N O4 S



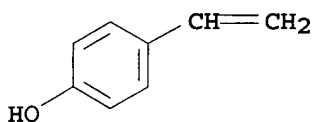
CM 2

CRN 246157-37-9
 CMF C18 H20 O2



CM 3

CRN 2628-17-3
 CMF C8 H8 O



IC ICM G03F007-039
 ICS H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and
 Photographic and Other Reprographic Processes)
 ST **pos photoresist** resoln line edge roughness;
 carboxylic sulfonic acid photoacid
 generator photoresist; electron beam extreme UV x ray
 lithog; hydroxystyrene benzenesulfonyl acrylamide copolymer ether
pos photoresist
 IT Photolithography
 (UV, extreme; **pos. photoresist**
compns. for forming precise patterns in high resolution
 and low line edge roughness)
 IT Carboxylic acids, uses
 Sulfonic acids, uses

(organic; pos. photoresist compns.
for forming precise patterns in high resolution and low line edge
roughness)

IT Electron beam lithography

Positive photoresists

X-ray lithography

(pos. photoresist compns. for
forming precise patterns in high resolution and low line edge
roughness)

IT 19600-49-8 197447-16-8 270563-96-7 365971-84-2 389859-76-1

(photoacid generators; pos.
photoresist compns. for forming precise
patterns in high resolution and low line edge roughness)

IT 935-04-6DP, Benzyl vinyl ether, ether with p-hydroxystyrene-N-
(benzenesulfonyl)acrylamide copolymer 860605-25-ODP, ether with
benzyl vinyl ether 860605-27-2P 860605-28-3P 860605-29-4P
860605-31-8P 860605-32-9P 860605-33-0P 860605-34-1P
860605-35-2P 860605-36-3P 860605-38-5P 860605-39-6P
860605-40-9P

(pos. photoresist compns. for
forming precise patterns in high resolution and low line edge
roughness)

L31 ANSWER 9 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:673805 HCAPLUS

DOCUMENT NUMBER: 143:163093

TITLE: Positive resist
composition and pattern formation
method using the same

INVENTOR(S): Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 61 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1557720	A1	20050727	EP 2005-1597	2005 0126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
US 2005164123	A1	20050728	US 2005-41384	2005 0125
JP 2005242336	A2	20050908	JP 2005-16978	2005 0125
PRIORITY APPLN. INFO.:				JP 2004-16613 A 2004 0126

AB A pos. resist composition which can be
suitably used in an ultramicroolithog. process such as production of
VLSI or high-capacity microchip and in other photofabrication

processes and can ensure good sensitivity, resolution, pattern profile and line edge roughness when irradiated with actinic rays or radiation, particularly, electron beam, X-ray or EUV; and a pattern formation method using the composition, are provided, the **pos. resist composition** comprising (A) a resin comprising a specific acryl-based repeating unit and a specific styrene-based repeating unit, which increases the dissoln. rate in an alkali developer by the action of an acid, (B) a compound capable of **generating** an acid upon irradiation with actinic rays or radiation, and (C) a solvent; and a pattern formation method using the composition

IT 860304-68-3 860304-69-4 860304-72-9
860304-74-1 860304-77-4 860304-78-5
860304-80-9

(**pos. resist composition** and pattern formation method containing)

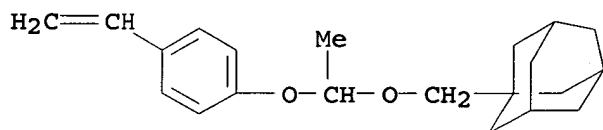
RN 860304-68-3 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 4-ethenylphenol and 1-[[1-(4-ethenylphenoxy)ethoxy]methyl]tricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 860304-67-2

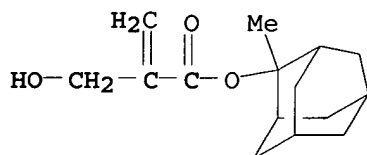
CMF C21 H28 O2



CM 2

CRN 380379-93-1

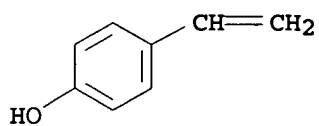
CMF C15 H22 O3



CM 3

CRN 2628-17-3

CMF C8 H8 O



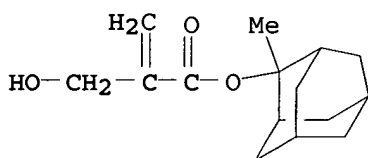
RN 860304-69-4 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene, ethenylbenzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 380379-93-1

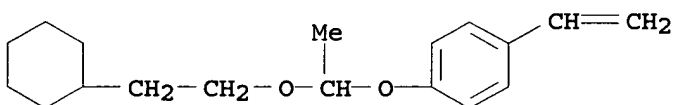
CMF C15 H22 O3



CM 2

CRN 288620-12-2

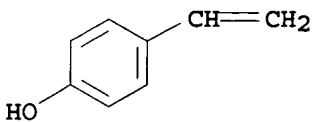
CMF C18 H26 O2



CM 3

CRN 2628-17-3

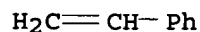
CMF C8 H8 O



CM 4

CRN 100-42-5

CMF C8 H8



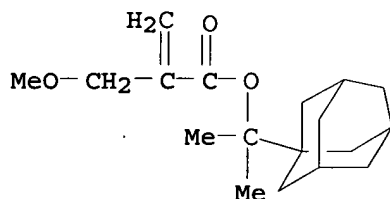
RN 860304-72-9 HCAPLUS

CN 2-Propenoic acid, 2-(methoxymethyl)-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 4-ethenyl-2-methoxyphenol and 4-ethenyl-2-methoxy-1-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 860304-71-8

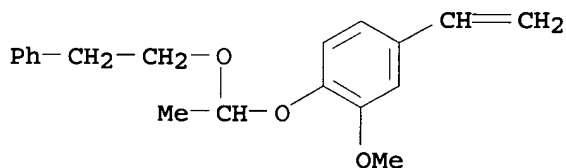
CMF C18 H28 O3



CM 2

CRN 860304-70-7

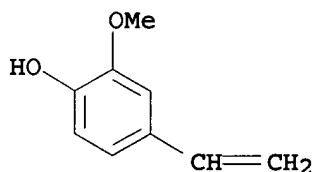
CMF C19 H22 O3



CM 3

CRN 7786-61-0

CMF C9 H10 O2



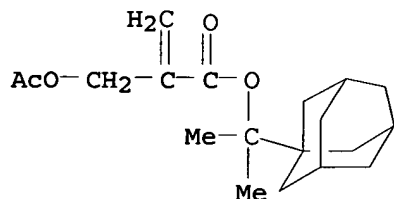
RN 860304-74-1 HCAPLUS

CN 2-Propenoic acid, 2-[(acetyloxy)methyl]-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 1-cyclohexyl-4-[2-[1-(4-ethenylphenoxy)ethoxy]ethyl]benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 860304-73-0

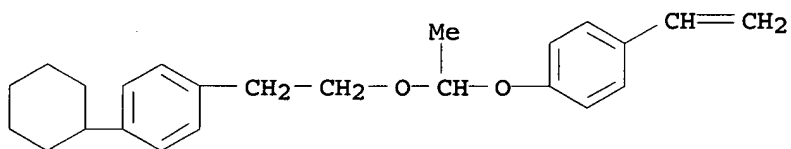
CMF C19 H28 O4



CM 2

CRN 586363-86-2

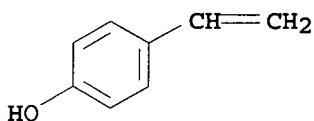
CMF C24 H30 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



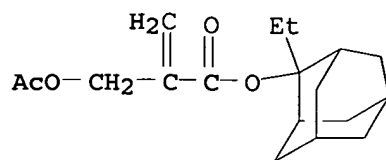
RN 860304-77-4 HCAPLUS

CN 2-Propenoic acid, 2-[(acetyloxy)methyl]-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 4-ethenylphenol and 1-[2-[1-(4-ethenylphenoxy)ethoxy]ethyl]naphthalene (9CI) (CA INDEX NAME)

CM 1

CRN 860304-76-3

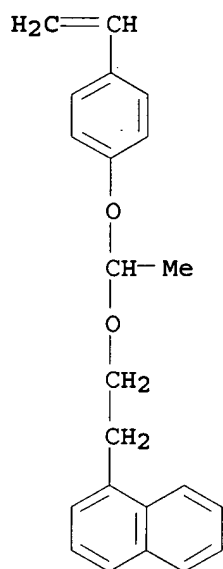
CMF C18 H26 O4



CM 2

CRN 860304-75-2

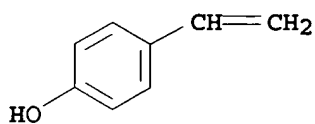
CMF C22 H22 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



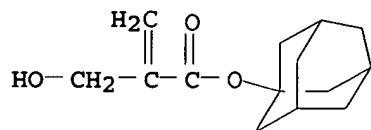
RN 860304-78-5 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-, tricyclo[3.3.1.1.3]dec-1-yl ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 380379-88-4

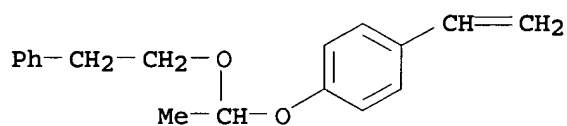
CMF C14 H20 O3



CM 2

CRN 246157-37-9

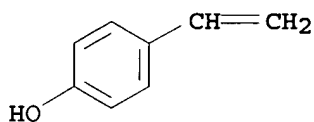
CMF C18 H20 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



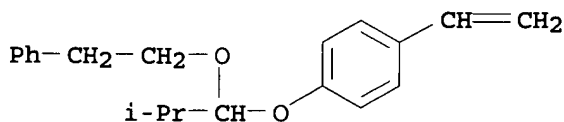
RN 860304-80-9 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-, tricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 1-ethenyl-4-[2-methyl-1-(2-phenylethoxy)propoxy]benzene, 4-ethenylphenol and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 860304-79-6

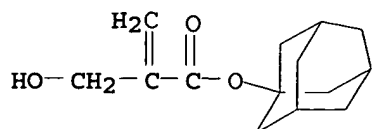
CMF C20 H24 O2



CM 2

CRN 380379-88-4

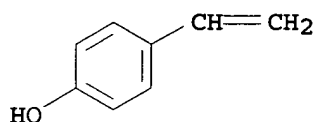
CMF C14 H20 O3



CM 3

CRN 2628-17-3

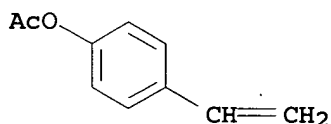
CMF C8 H8 O



CM 4

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-039
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
 Section cross-reference(s): 35, 38
 ST **pos resist compn** pattern formation
 IT Lithography
 (micron; **pos. resist composition** and
 pattern formation method using same)
 IT **Photoresists**
 (**pos. resist composition** and pattern
 formation method using same)
 IT Polysiloxanes, uses
 (surfactant; **pos. resist composition**
 and pattern formation method containing)
 IT 60-80-0, Antipyrine 91-66-7 120-07-0 484-47-9 1116-76-3,
 Trioctylamine 24544-04-5, 2,6-Diisopropylaniline
 (basic compound; **pos. resist composition**
 and pattern formation method containing)
 IT 860304-54-7P
 (**pos. resist composition** and pattern
 formation method containing)
 IT 860304-50-3 860304-51-4 860304-53-6 860304-55-8
 860304-57-0 860304-59-2 860304-60-5 860304-62-7
 860304-64-9 860304-65-0 860304-66-1 860304-68-3
 860304-69-4 860304-72-9 860304-74-1
 860304-77-4 860304-78-5 860304-80-9

(**pos. resist composition** and pattern formation method containing)

IT 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate
 108-94-1, Cyclohexanone, uses 110-43-0, 2-Heptanone 123-86-4,
 Butyl acetate 1320-67-8, Propylene glycol monomethyl ether
 84540-57-8, Propylene glycol monomethyl ether acetate
 (solvent; **pos. resist composition** and pattern formation method containing)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
 (surfactant; **pos. resist composition** and pattern formation method containing)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L31 ANSWER 10 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:323340 HCAPLUS

DOCUMENT NUMBER: 142:400566

TITLE: Chemically amplified positive-working electron beam-, x-ray-, or EUV-sensitive **resist composition** and method for pattern formation using the same

INVENTOR(S): Mizutani, Kazuyoshi; Yasunami, Shoichiro; Adegawa, Yutaka

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005099558	A2	20050414	JP 2003-334832	

2003
0926

PRIORITY APPLN. INFO.: JP 2003-334832

2003
0926

AB The title composition contains a resin increasing the solubility in alkaline developers by an acid and an electron beam-, x-ray-, or EUV-sensitive **acid generator**, wherein the resin has repeating unit -O-C(R1)(R2)-O-[-C(R3)(R4)]_m-Z1(R1-2 = H, alkyl; R3-4 = H, alkyl, cycloalkyl; m = integer 0-20; Z = alkyl, cycloalkyl, aryl, alicyclic group) or -O-C(R5)(R6)-O-W-Y-Z2(R5-6 = H, alkyl; Z = alkyl, cycloalkyl, aryl, alicyclic group; W = 2-valent connecting group; Y = -O-, -OCO-, -COO-, etc.) and repeating group -O-C(R11)(R12)(R13)(R11-13 = alkyl, alicyclic group) or -C(=O)-O-C(R14)(R15)(R16)(R14-16 = alkyl, alicyclic group). The composition shows high sensitivity and provides pattern of high resolution and good profile.

IT 849744-12-3P 849744-22-5P
 (resin in **pos.-working** electron beam, x-ray, or EUV-sensitive **resist composition**)

RN 849744-12-3 HCAPLUS

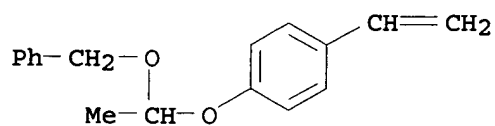
CN Phenol, 4-ethenyl-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene

(9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

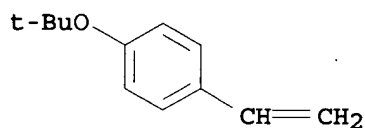
CMF C17 H18 O2



CM 2

CRN 95418-58-9

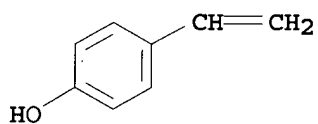
CMF C12 H16 O



CM 3

CRN 2628-17-3

CMF C8 H8 O



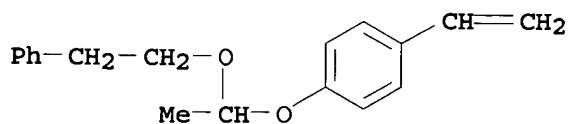
RN 849744-22-5 HCAPLUS

CN Benzoic acid, 4-ethenyl-, 1,1-dimethylethyl ester, polymer with
4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene
(9CI) (CA INDEX NAME)

CM 1

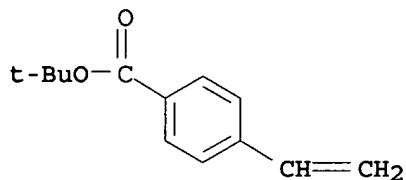
CRN 246157-37-9

CMF C18 H20 O2



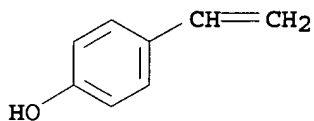
CM 2

CRN 84740-98-7
CMF C13 H16 O2



CM 3

CRN 2628-17-3
CMF C8 H8 O



IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
ST amplified pos electron beam x ray EUV **resist compn**
IT Electron beam **resists**
Photolithography
Positive photoresists
X-ray resists
(pos.-working electron beam, x-ray, or EUV-sensitive **resist composition** and method for pattern formation using the same)
IT 19600-49-8, Triphenylsulfonium acetate 197447-16-8 270563-96-7
365971-84-2 389859-76-1
(**acid-generator** in pos.-working electron beam, x-ray, or EUV-sensitive **resist compn**.)
IT **849744-12-3P** **849744-14-5P** **849744-16-7P** **849744-19-0P**
849744-22-5P **849744-25-8P** **849744-29-2P** **849744-32-7P**
849744-36-1P **849744-39-4P**
(resin in pos.-working electron beam, x-ray, or EUV-sensitive **resist composition**)

L31 ANSWER 11 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:323339 HCAPLUS

DOCUMENT NUMBER: 142:400565

TITLE: Chemically amplified positive-working electron beam-, x-ray-, or EUV-sensitive **resist composition** and method for pattern formation using the same

INVENTOR(S): Mizutani, Kazuyoshi; Yasunami, Shoichiro;

PATENT ASSIGNEE(S): Adegawa, Yutaka
 SOURCE: Fuji Photo Film Co., Ltd., Japan
 Jpn. Kokai Tokkyo Koho, 58 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005099557	A2	20050414	JP 2003-334831	2003 0926

PRIORITY APPLN. INFO.: JP 2003-334831
 2003
 0926

AB The title composition contains a resin increasing the solubility in alkaline developers by an acid and an electron beam-, x-ray-, or EUV-sensitive **acid generator**, wherein the resin has repeating unit -O-C(R1)(R2)-O-[-C(R3)(R4)]_m-Z1(R1-2 = H, alkyl; R3-4 = H, alkyl, cycloalkyl; m = integer 0-20; Z = alkyl, cycloalkyl, aryl, alicyclic group) or -O-C(R5)(R6)-O-W-Y-Z2(R5-6 = H, alkyl; Z = alkyl, cycloalkyl, aryl, alicyclic group; W = 2-valent connecting group; Y = -O-, -OCO-, -COO-, etc.) and repeating group -C(=O)-O-C(R14)(R15)(R16)(R14-16 = alkyl, alicyclic group) to **generate** a carboxy acid compound. The composition shows high sensitivity and provides pattern of high resolution and good profile.

IT **849741-87-3P 849741-97-5P**
 (resin in pos.-working electron beam, x-ray, or EUV-sensitive **resist composition**)

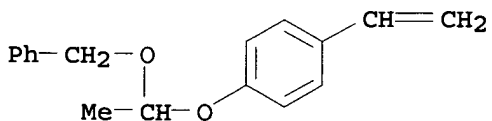
RN 849741-87-3 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

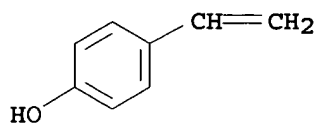
CMF C17 H18 O2



CM 2

CRN 2628-17-3

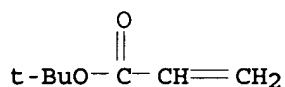
CMF C8 H8 O



CM 3

CRN 1663-39-4

CMF C7 H12 O2



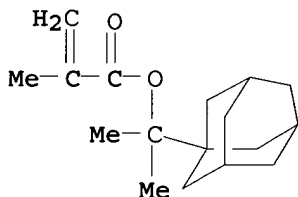
RN 849741-97-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 279218-76-7

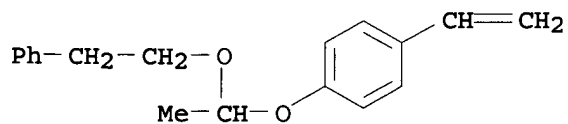
CMF C17 H26 O2



CM 2

CRN 246157-37-9

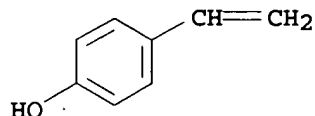
CMF C18 H20 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039
ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35

ST amplified pos electron beam x ray EUV resist
compn

IT Electron beam resists
Photolithography
Positive photoresists
X-ray resists
(pos.-working electron beam, x-ray, or EUV-sensitive
resist composition and method for pattern
formation using the same)

IT 19600-49-8 197447-16-8 270563-96-7 365971-84-2 389859-76-1
(acid-generator in pos.-working electron
beam, x-ray, or EUV-sensitive resist compn
.)

IT 849741-87-3P 849741-90-8P 849741-92-0P 849741-95-3P
849741-97-5P 849741-99-7P 849742-01-4P 849742-03-6P
849742-06-9P 849743-95-9P
(resin in pos.-working electron beam, x-ray, or EUV-sensitive
resist composition)

L31 ANSWER 12 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1058726 HCAPLUS

DOCUMENT NUMBER: 142:45908

TITLE: Method of forming positive-working
resist pattern using phenolic resin
composition

INVENTOR(S): Yasunami, Shoichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 50 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

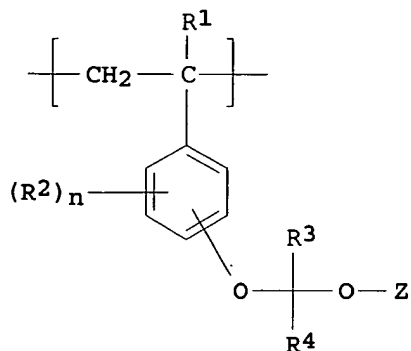
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004347985	A2	20041209	JP 2003-146613	

2003
0523

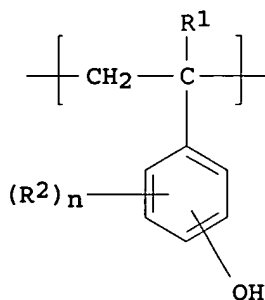
PRIORITY APPLN. INFO.: JP 2003-146613

2003
0523

GI



I



II

AB Disclosed is the process using a **resist composition** made up of (a) an alkali-insol. or alkali-hardly soluble phenolic resin having phenolic OH protected by acetal or ketal group and becoming alkali soluble upon the interaction with an acid, (b) a compound **generating** sulfonic acid upon receiving electron beam, x-ray, or EUV, and (c) a solvent, wherein the process comprises the steps of applying the composition on a substrate to a film thickness ≤ 250 nm, effecting imagewise exposure, and developing. The phenolic resin may have repeating units represented by I and II ($R_1 = H, Me, cyano, etc.$; $R_2 = alkyl, halo, etc.$; $R_{3,4} = H, C1-4 alkyl$; and $Z = C6-30$ ring structure).

IT **288620-13-3P**
(formation of **pos.-working resist** pattern
using phenolic resin composition)

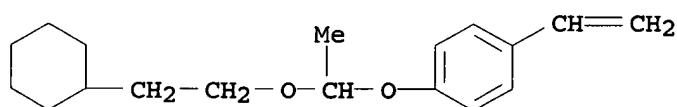
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1.

CRN 288620-12-2

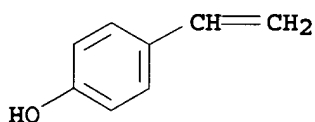
CMF C18 H26 O2



CM 2

CRN 2628-17-3

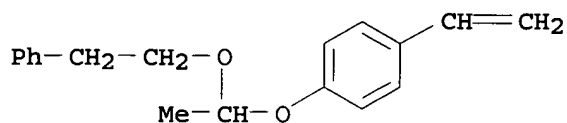
CMF C8 H8 O



IT 279244-37-0 288620-15-5 754191-55-4
 (formation of pos.-working resist pattern
 using phenolic resin composition)
 RN 279244-37-0 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-
 phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

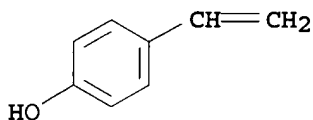
CM 1

CRN 246157-37-9
 CMF C18 H20 O2



CM 2

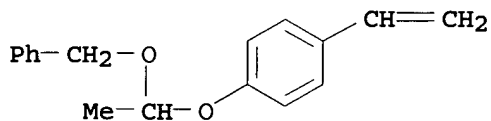
CRN 2628-17-3
 CMF C8 H8 O



RN 288620-15-5 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(
 phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

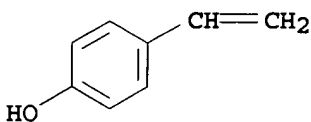
CM 1

CRN 288620-14-4
 CMF C17 H18 O2



CM 2

CRN 2628-17-3
 CMF C8 H8 O

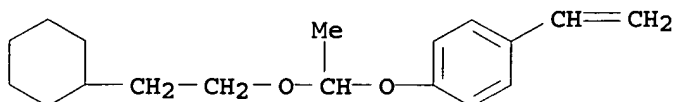


RN 754191-55-4 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-ethenyl-4-methoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

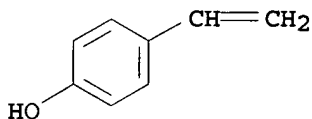
CMF C18 H26 O2



CM 2

CRN 2628-17-3

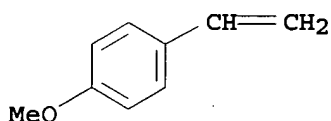
CMF C8 H8 O



CM 3

CRN 637-69-4

CMF C9 H10 O



IC ICM G03F007-039
 ICS G03F007-26; H01L021-027
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
 ST **pos** working resist pattern phenolic resin compn; electron beam x ray vacuum UV resist photoresist; **acid generating agent photoacid**
 IT Photoresists
 (UV; formation of **pos.**-working resist pattern using phenolic resin composition)
 IT Electron beam resists
 X-ray resists
 (formation of **pos.**-working resist pattern using phenolic resin composition)
 IT Sulfonic acids, uses
 (formation of **pos.**-working resist pattern)

- using phenolic resin composition)
- IT Phenolic resins, uses
(formation of **pos.-working resist** pattern
using phenolic resin composition)
- IT 1886-74-4 144089-15-6 144317-44-2, Triphenylsulfonium
perfluorobutanesulfonate 153698-46-5 194999-85-4 197447-16-8
287925-55-7 335199-99-0 508210-39-7
(**acid-generating agent**; formation of
pos.-working resist pattern using phenolic
resin composition)
- IT 288620-13-3P 503003-65-4P
(formation of **pos.-working resist** pattern
using phenolic resin composition)
- IT 279244-35-8 279244-37-0 288620-15-5
326591-96-2 754191-45-2 754191-55-4
(formation of **pos.-working resist** pattern
using phenolic resin composition)
- IT 109-92-2, Ethylvinyl ether 110-75-8, 2-Chloroethylvinyl ether
1131-60-8, p-Cyclohexylphenol 24979-70-2, Poly(p-hydroxystyrene)
(preparation of phenolic resin for **pos.-working
resist composition**)
- IT 935-04-6P, Benzyl vinyl ether 212555-24-3P, 4-
Cyclohexylphenoxyethylvinyl ether
(preparation of phenolic resin for **pos.-working
resist composition**)

L31 ANSWER 13 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:904380 HCAPLUS

DOCUMENT NUMBER: 141:386375

TITLE: **Positive-working photoresist
composition** for semiconductor device
fabrication

INVENTOR(S): Shirakawa, Hiroshi; Fujimori, Toru; Yasunami,
Shoichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 64 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004302081	A2	20041028	JP 2003-94332	2003 0331

PRIORITY APPLN. INFO.: JP 2003-94332

2003
0331

AB The title composition contains a resin which increases the solubility in an alkali developers by reacting with an acid, and a **photoacid generator**, wherein the resin has group -O-(R1)C(R2)-O-[-(R3)C(R4)-]m-Z(R1-2 = H, C1-4 alkyl; R3-4 = H, alkyl; Z = Ph, alicyclic; m = integer 1-20) and wherein the **photoacid generator** consists of cation having a phenolic OH group and anion RSO3-(R = F-containing C₂ alkyl, alkyl and/or halo substituted Ph, Ph having ≥ 2 halo-containing

alkyl substituents, etc.). The composition shows high sensitivity and good PED characteristics and resist pattern of high resolution and good profile.

IT 279244-37-0P 288620-13-3P 359434-80-3P
(resin in pos.-working photoresist
composition)

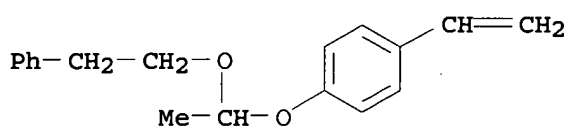
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

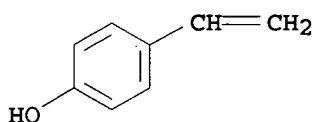
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



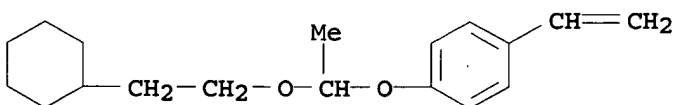
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

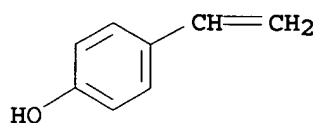
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



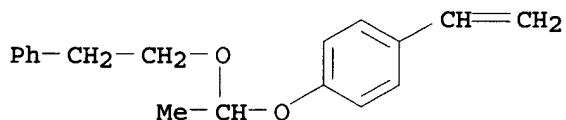
RN 359434-80-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

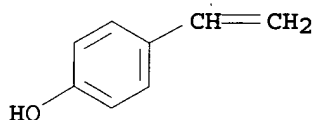
CMF C18 H20 O2



CM 2

CRN 2628-17-3

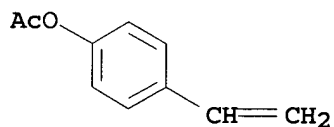
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 76

ST **pos photoresist compn resin**

photoacid generator

IT **Positive photoresists**

Semiconductor device fabrication

(pos.-working photoresist composition)
 IT 110-75-8, 2-Chloroethyl vinyl ether 375-73-5D,
 Nonafluorobutanesulfonic acid, tetramethylammonium salt
 1131-60-8, p-Cyclohexylphenol 12027-06-4, Ammonium iodide
 14763-63-4, 4-Hydroxydiphenyl sulfoxide
 (pos.-working photoresist composition)
 IT 75-59-2DP, Tetramethylammonium hydroxide, salt with sulfonate
 2991-84-6DP, 1-Butanesulfonyl chloride, nonafluoro-, salt with
 ammonium
 (pos.-working photoresist composition)
 IT 24979-70-2DP, VP 8000, reaction product with 4-
 cyclohexylphenoxyethyl vinyl ether vinyl ether 31814-77-4DP,
 Phenethyl vinyl ether, reaction product with styrene polymer
 58991-77-8DP, P 1500, reaction product with benzylethyl vinyl
 ether 212555-24-3DP, 4-Cyclohexylphenoxyethyl vinyl ether,
 reaction product with p-hydroxystyrene polymer
 (pos.-working photoresist composition)
 IT 279244-35-8P 279244-37-0P 288620-13-3P
 326591-96-2P 328935-88-2P 359434-80-3P 391232-41-0P
 524699-48-7P 528593-36-4P 782490-84-0P 782490-85-1P
 782490-86-2P 782490-88-4P 782490-89-5P 782490-91-9P
 (resin in pos.-working photoresist
 composition)

L31 ANSWER 14 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:820201 HCAPLUS

DOCUMENT NUMBER: 141:340381

TITLE: Chemically amplified **photoresist**
composition containing specific
photoacid generator and
 specific fluoro polymers

INVENTOR(S): Kanna, Shinichi; Kodama, Kunihiro; Takahashi,
 Omote

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004279667	A2	20041007	JP 2003-70104	2003 0314

PRIORITY APPLN. INFO.: JP 2003-70104

2003
0314

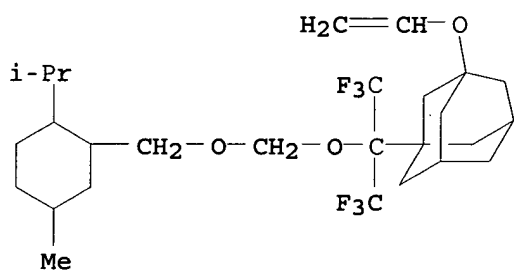
AB The title composition contains a fluoro resin increasing the
 alkali-solubility by an acid and a **photoacid**
generator, wherein the **photoacid**
generator satisfies the equation: $-1.5 < E_{pc} < -0.5$ where
 $E_{pc}(V)$ is the half wave of the reduction voltage. The composition is
 suitable for exposure light of ≤ 160 nm such as F2 excimer
 laser.

IT 769939-58-4P
 (resin; chemical amplified **photoresist composition**)

RN 769939-58-4 HCAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with 4-[1-[2-(ethenyloxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]- α,α -bis(trifluoromethyl)cyclohexanemethanol and 1-(ethenyloxy)-3-[2,2,2-trifluoro-1-[[[5-methyl-2-(1-methylethyl)cyclohexyl]methoxy]methoxy]-1-(trifluoromethyl)ethyl]tricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

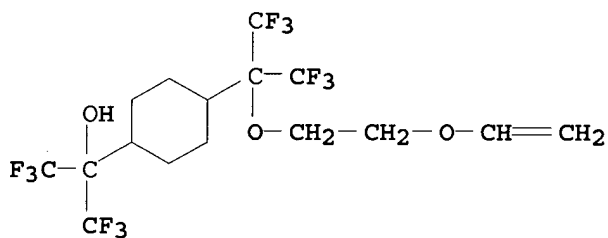
CM 1

CRN 769939-57-3
 CMF C27 H40 F6 O3



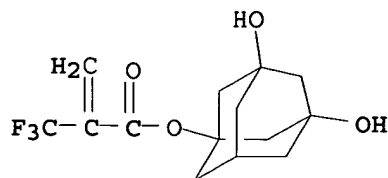
CM 2

CRN 654076-29-6
 CMF C16 H18 F12 O3



CM 3

CRN 521913-16-6
 CMF C14 H17 F3 O4

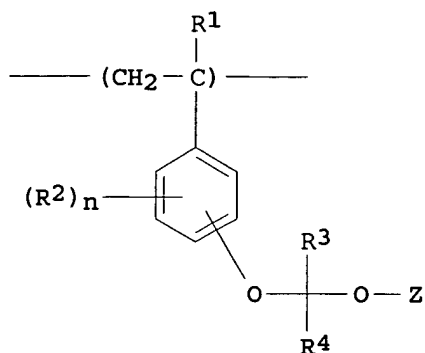


IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 37
ST amplified photoresist compn photoacid
generator fluoro polymer
IT Positive photoresists
(chemical amplified photoresist composition)
IT Fluoropolymers, preparation
(chemical amplified photoresist composition)
IT Acids, uses
(precursor; chemical amplified photoresist compn
.)
IT 160481-39-0P 301664-71-1P 769939-59-5P
(photoacid; chemical amplified photoresist compn
.)
IT 643024-70-8P 769939-55-1P 769939-56-2P 769939-58-4P
769949-25-9P
(resin; chemical amplified photoresist composition)

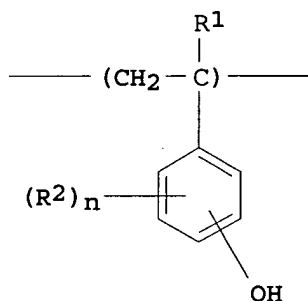
L31 ANSWER 15 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:739833 HCAPLUS
DOCUMENT NUMBER: 141:268545
TITLE: Positive working resist
composition
INVENTOR(S): Yasunami, Shoichiro; Shirakawa, Koji;
Mizutani, Kazuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 37 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004175654	A1	20040909	US 2004-791559	2004 0303
JP 2004271629	A2	20040930	JP 2003-58732	2003 0305
PRIORITY APPLN. INFO.:			JP 2003-58732	A 2003 0305

GI



I



II

AB A pos. working resist composition comprising (A) a resin containing repeating units represented by the formula I and II ($R_1 = H, Me, \text{cyano}, \text{halogen}, \text{C1-4-perfluoroalkyl}$; $R_2 = H, \text{alkyl}, \text{halogen}, \text{aryl}, \text{alkoxy}, \text{acyl}$; R_3 and $R_4 = H, \text{C1-4-alkyl}$; $Z = \text{C6-30-hydrocarbon containing at least one cyclic structural unit selected from an alicyclic structure, an aromatic cyclic structure and a bridged alicyclic structure; } n = 0-4$), and having a property of being insol. or sparingly soluble in an alkali developing solution and becoming soluble in an alkali developing solution by the action of an acid, and (B) a compound capable of generating sulfonic acid upon irradiation with active rays or radiations in an amount of 5-20% by weight based on the total solid content of the pos. working resist composition. The object of the invention is to provide a pos. working resist composition capable of satisfying high sensitivity, high resolution, good pattern shape and good line edge roughness at the same time.

IT 279244-37-0 288620-13-3 288620-15-5
754191-55-4
(resin; pos. working resist compn.)

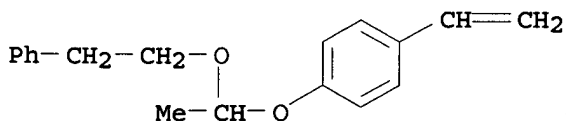
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

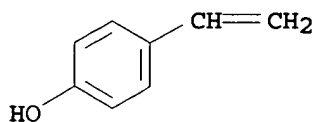
CRN 246157-37-9

CMF C18 H20 O2



CM 2

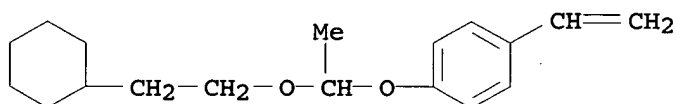
CRN 2628-17-3
CMF C8 H8 O



RN 288620-13-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

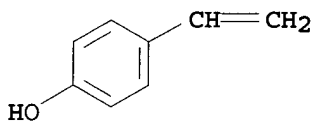
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

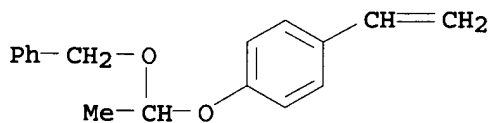
CRN 2628-17-3
CMF C8 H8 O



RN 288620-15-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

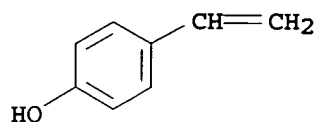
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

CRN 2628-17-3
CMF C8 H8 O



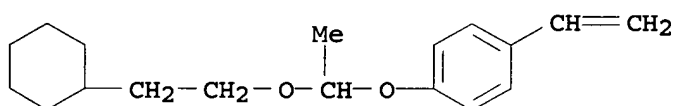
RN 754191-55-4 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-ethenyl-4-methoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

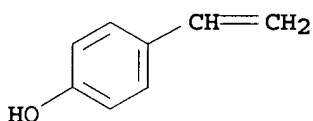
CMF C18 H26 O2



CM 2

CRN 2628-17-3

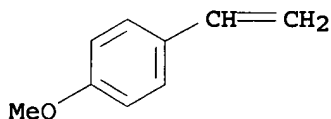
CMF C8 H8 O



CM 3

CRN 637-69-4

CMF C9 H10 O



IC ICM G03F007-004

ICS G03F007-039

INCL 430281100; 430286100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos working resist compn
photoresist

IT Polysiloxanes, uses
(KP341; pos. working resist compn)

.)

IT **Positive photoresists**
(UV; preparation of polymer compound for **pos.** working
resist composition)

IT 1886-74-4 10409-06-0 13891-29-7 14721-86-9 144089-15-6
144317-44-2 153698-46-5 171417-91-7 197447-16-8
251463-24-8 270563-96-7 301664-71-1 335199-99-0
343629-47-0 389859-76-1 508210-39-7 509097-30-7
591244-06-3 591244-08-5 754191-59-8 754191-60-1
(basic compound; **pos.** working **resist**
composition)

IT 102-86-3, Tri-n-hexylamine 484-47-9, 2,4,5-Triphenylimidazole
2052-49-5, Tetra-(n-butyl)ammonium hydroxide 19600-49-8
137462-24-9, Megafac F-176 216679-67-3, Megafac R08
342809-27-2 564483-94-9
(**pos.** working **resist composition**)

IT 110-75-8, 2-Chloroethyl vinyl ether 1131-60-8,
p-Cyclohexylphenol
(preparation of polymer compound for **pos.** working
resist composition)

IT 212555-24-3P, 4-Cyclohexylphenoxyethyl vinyl ether
(preparation of polymer compound for **pos.** working
resist composition)

IT 503003-65-4P
(resin; **pos.** working **resist compn**
.)

IT 125325-82-8 158593-28-3 177034-67-2 199432-82-1
279244-37-0 287381-54-8 288620-13-3
288620-15-5 326591-96-2 476479-39-7 754191-41-8
754191-43-0 754191-45-2 754191-46-3 754191-48-5
754191-50-9 754191-52-1 754191-54-3 754191-55-4
754191-56-5 754191-58-7
(resin; **pos.** working **resist compn**
.)

L31 ANSWER 16 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:700522 HCAPLUS
DOCUMENT NUMBER: 141:215640
TITLE: Cyclic ethers and **positive**
resist compositions
INVENTOR(S): Fujimori, Toru
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 76 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004238304	A2	20040826	JP 2003-27161	

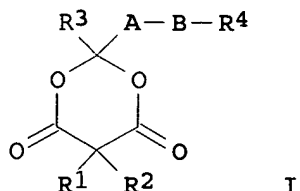
2003
0204

PRIORITY APPLN. INFO.: JP 2003-27161

2003
0204

OTHER SOURCE(S): MARPAT 141:215640

GI



AB The cyclic ethers comprise I (R1, R2 = H, alkyl, cycloalkyl, aryl, aralkyl; R1 and R2 may form ring or substituent bonded to ring via double bond; R3, R4 = alkyl, cycloalkyl, aryl, aralkyl; A = alkylene; B = heteroatom). The compns. comprise **acid-generating** agents by irradiation of actinic ray or radiation, alkali developer-insol. polymers showing solubility for alkali developers by the action of acids, and I. The compns. are useful for manufacture of semiconductor devices and circuit boards and photofabrication. The compns. show good roundness of contact holes and rectangular profiles.

IT 288620-13-3P 288620-15-5P

(cyclic ethers for **pos. resists** with good roundness of contact holes and rectangular profiles)

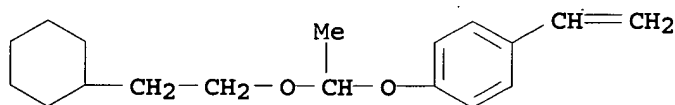
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

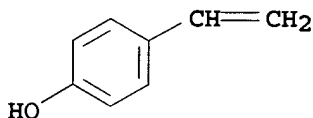
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O

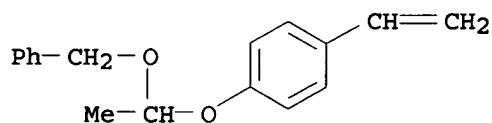


RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

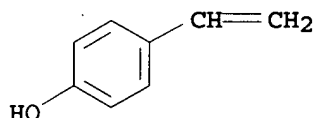
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

CRN 2628-17-3
CMF C8 H8 O



IC ICM C07D319-06
ICS G03F007-004; G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 24
ST cyclic ether resist contact hole roundness; **pos**
resist cyclic ether rectangle profile
IT Fluoropolymers, preparation
(acrylic; cyclic ethers for **pos. resists**
with good roundness of contact holes and rectangular profiles)
IT **Positive photoresists**
(far-UV; cyclic ethers for **pos. resists**
with good roundness of contact holes and rectangular profiles)
IT 138529-81-4 144317-44-2 177034-80-9 197447-16-8
209482-18-8 241806-75-7 258872-05-8 284474-28-8
300374-81-6 301664-71-1 389859-76-1 391232-40-9
398141-23-6 470482-89-4 506445-12-1 610301-34-3
(**acid generators**; cyclic ethers for
pos. resists with good roundness of contact
holes and rectangular profiles)
IT 744245-81-6P
(cyclic ethers for **pos. resists** with good
roundness of contact holes and rectangular profiles)
IT 159296-87-4P 199432-82-1P 200808-68-0P 228101-60-8P
250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl
methacrylate copolymer 262617-13-0P, tert-Butyl
norbornene-2-carboxylate-norbornene-tetrafluoroethylene copolymer
288620-13-3P 288620-15-5P 290300-33-3P
297742-32-6P 326591-96-2P 391232-36-3P 398140-38-0P
398140-71-1P 398140-77-7P 398140-88-0P, tert-Butyl
norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl
acrylate-norbornenelactone acrylate copolymer 398140-91-5P
430436-79-6P, (a)-Norbornene-tetrafluoroethylene copolymer
430436-81-0P 430437-14-2P 431062-12-3P 482609-97-2P
524699-47-6P 532989-17-6P 744246-25-1P, tert-Butyl
norbornenecarboxylate-butyrolactone norbornenecarboxylate-maleic

anhydride copolymer

(cyclic ethers for **pos. resists** with good roundness of contact holes and rectangular profiles)

IT 744245-82-7 744245-83-8 744245-84-9 744245-86-1
744245-88-3 744245-89-4 744245-93-0 744245-96-3
744246-00-2 744246-03-5 744246-06-8 744246-09-1
744246-12-6 744246-14-8 744246-16-0 744246-18-2

(cyclic ethers for **pos. resists** with good roundness of contact holes and rectangular profiles)

IT 20233-08-3
(intermediates in cyclic ether preparation; cyclic ethers for **pos. resists** with good roundness of contact holes and rectangular profiles)

IT 78-95-5, Chloromethyl methyl ketone 141-82-2, Malonic acid, reactions 94805-33-1, Octanethiol.
(reactants in cyclic ether preparation; cyclic ethers for **pos. resists** with good roundness of contact holes and rectangular profiles)

L31 ANSWER 17 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:632360 HCAPLUS

DOCUMENT NUMBER: 141:181968

TITLE: Chemically amplified **positive resist compositions** with improved line edge roughness and suppressed scum generation

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 93 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004219571	A2	20040805	JP 2003-4801	2003 0110

PRIORITY APPLN. INFO.: JP 2003-4801

2003
0110

AB The **pos. resist compns.** contain (A) compds. **generating acids** by irradiation of actinic light or irradiation, (B) resins which are insol. or slightly soluble in alkali developers and become soluble to the alkali developers with the assistance of acids, and (C) basic compds. bearing groups which generate polar groups with the assistance of acids.

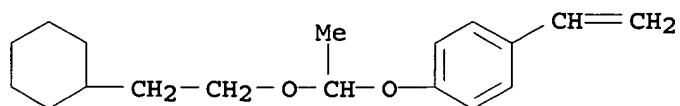
IT 288620-13-3P 288620-15-5P 289706-85-0P
(chemical amplified **pos. resist compns** . with improved line edge roughness and suppressed scum generation)

RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

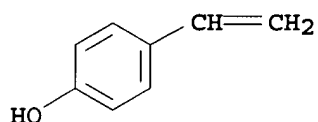
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

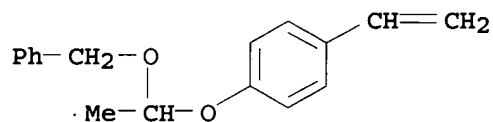
CRN 2628-17-3
CMF C8 H8 O



RN 288620-15-5 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

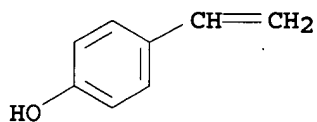
CM 1

CRN 288620-14-4
CMF C17 H18 O2



CM 2

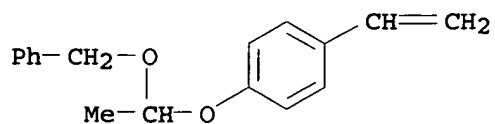
CRN 2628-17-3
CMF C8 H8 O



RN 289706-85-0 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

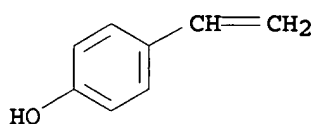
CM 1

CRN 288620-14-4
CMF C17 H18 O2



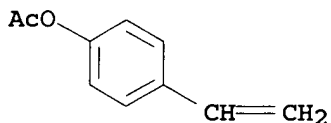
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 2628-16-2
CMF C10 H10 O2



IC ICM G03F007-004
ICS G03F007-039; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
ST chem amplified **pos resist** base compd; deep UV
resist pos base compd; electron beam
resist pos base compd
IT **Positive photoresists**
(UV, deep UV **resist**; chemical amplified **pos.**
resist compns. with improved line edge
roughness and suppressed scum generation)
IT Electron beam **resists**
(**pos.**-working; chemical amplified **pos.**
resist compns. with improved line edge
roughness and suppressed scum generation)
IT 155040-27-0P 158593-28-3P 199432-82-1P 228101-60-8P
250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl
methacrylate copolymer 258871-96-4P 262617-13-0P
288620-13-3P 288620-15-5P 289706-85-0P
326591-96-2P 391232-36-3P 398140-38-0P 398140-47-1P
398140-57-3P 398140-71-1P 398140-88-0P, tert-Butyl
norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl
acrylate-norbornenelactone acrylate copolymer 398140-91-5P

398141-13-4P 430436-66-1P 430436-79-6P 430436-81-0P
 430436-92-3P 430437-14-2P, 4-(2-Hydroxyhexafluoroisopropyl)styrene-4-(1-methoxyethoxy)styrene copolymer 482609-97-2P
 524699-47-6P 532989-17-6P 717848-87-8P, 4-[Bis(trifluoromethyl)hydroxymethyl]styrene-ethyl vinyl ether-methacrylonitrile copolymer

(chemical amplified **pos. resist comps**

. with improved line edge roughness and suppressed scum generation)

IT 102-82-9, Tributylamine 1116-76-3, Trioctylamine 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene 36631-19-3, Triphenylimidazole 153921-59-6, Diisopropylaniline

(chemical amplified **pos. resist comps**

. with improved line edge roughness and suppressed scum generation)

IT 62-53-3, Aniline, reactions 37865-96-6, 2-(2-Bromoethyl)-2-methyl-1,3-dioxolane

(chemical amplified **pos. resist comps**

. with improved line edge roughness and suppressed scum generation)

IT 146743-72-8 733023-47-7 733023-54-6 733023-61-5
 733023-67-1 733023-70-6 733023-74-0 733023-77-3
 733023-80-8 733023-82-0 733023-85-3 733023-86-4
 733023-88-6 733023-91-1 733023-92-2 733023-94-4
 733023-95-5 733023-97-7 733023-98-8 733024-00-5
 733024-02-7 733024-08-3

(chemical amplified **pos. resist comps**

. with improved line edge roughness and suppressed scum generation)

IT 39153-56-5 138529-81-4 144317-44-2 177034-80-9 197447-16-8
 209482-18-8 241806-75-7 258872-05-8 284474-28-8
 300374-81-6 301664-71-1 389859-76-1 391232-40-9
 398141-17-8 398141-23-6 470482-89-4 474510-73-1
 506445-12-1 524959-18-0 610301-34-3

(photoacid generator; chemical amplified

pos. resist comps. with improved

line edge roughness and suppressed scum generation)

L31 ANSWER 18 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:272035 HCAPLUS

DOCUMENT NUMBER: 140:312008

TITLE: **Positive-working resist composition** with improved precision in response to light

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 75 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004102019	A2	20040402	JP 2002-265400	2002 0911

PRIORITY APPLN. INFO.:

JP 2002-265400

2002

0911

AB Title **resist composition** comprises (A) a compound **generating acid** upon actinic ray irradiation, (B) a fluorine-containing polymer which decomp. and has increased solubility in alkaline developing liquid in the presence of an acid, and (C) at least one nitrogen-containing ionic basic compound

IT 430437-17-5P

(pos.-working resist composition with improved precision in response to light)

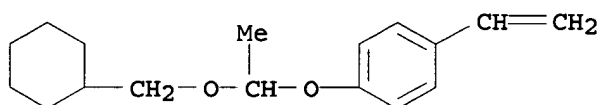
RN 430437-17-5 HCAPLUS

CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-, polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 430437-16-4

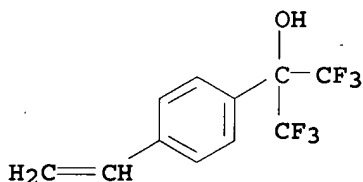
CMF C17 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



IC ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos resist precision response fluoropolymer

IT Positive photoresists

(pos.-working resist composition with improved precision in response to light)

IT Fluoropolymers, preparation

(pos.-working resist composition with improved precision in response to light)

IT 109-92-2DP, Ethyl vinyl ether, reaction products with hydroxy-containing polymers 103983-46-6DP, reaction products with hydroxy-containing polymers 262617-13-0P 370866-15-2P
430436-66-1P 430436-68-3P 430436-78-5P 430436-81-0P
430436-90-1P 430436-91-2P 430436-97-8P 430436-98-9P

430437-11-9P 430437-12-0P 430437-14-2P **430437-17-5P**
 430437-22-2P 430437-27-7P 430437-33-5P 430437-35-7P
 430437-40-4P 431062-16-7P 431062-17-8P 431062-18-9P
 431062-20-3P 462109-80-4DP, reaction products 524952-70-3P
 524952-73-6P 524952-74-7P 540729-51-9P 676488-04-3P

(pos.-working resist composition with
 improved precision in response to light)

IT 75-59-2, Tetramethylammonium hydroxide 102-82-9, Tributylamine
 102-87-4, Tridodecylamine 120-07-0 556-81-0 1116-76-3,
 Trioctylamine 1122-58-3, 4-Dimethylaminopyridine 2052-49-5,
 Tetrabutylammonium hydroxide 2403-88-5, 2,2,6,6-Tetramethyl-4-
 hydroxypiperidine 3001-72-7, {1,5-Diazabicyclo[4.3.0]-5-nonene}
 4107-98-6, N,N-Diisopropylaniline 6674-22-2,
 {1,8-Diazabicyclo[5.4.0]-7-undecene} 17756-56-8,
 Tetrahexylammonium hydroxide 36631-19-3, Triphenylimidazole
 133710-62-0 138529-84-7 160481-39-0 209482-18-8
 241806-75-7 258872-05-8 284474-28-8 300374-81-6
 301664-71-1 389859-76-1 391232-40-9 398141-23-6
 462653-49-2 470482-89-4 474510-73-1 506445-12-1
 524959-18-0

(pos.-working resist composition with
 improved precision in response to light)

L31 ANSWER 19 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:268721 HCAPLUS

DOCUMENT NUMBER: 140:311990

TITLE: Chemically amplified negative and positive
 photoresist compositions with high resolution
 giving good pattern profiles with no foreign
 substance

INVENTOR(S): Takahashi, Akira; Mizutani, Kazuyoshi;
 Yasunami, Shoichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 78 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004101645	A2	20040402	JP 2002-260267	

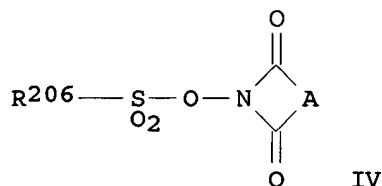
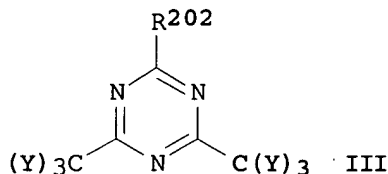
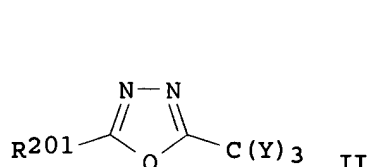
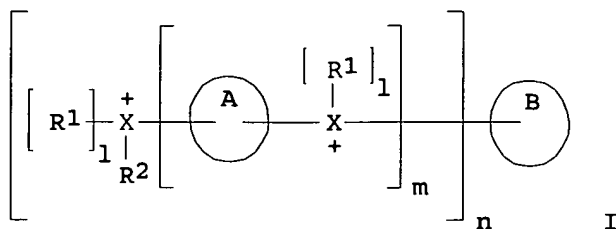
2002
0905

PRIORITY APPLN. INFO.: JP 2002-260267

2002
0905

OTHER SOURCE(S): MARPAT 140:311990

GI



AB The neg. photoresist compns. comprise (A) photoacid generators having structures I (X = S, iodine; R1, R2 = alkyl, aryl; A, B = hydrocarbon group linking X+, at least one of the X+ in the same conjugation; 1 = 0 when X = iodine; 1 = 1 when X = S; m = 0-10; n = 1-6; n ≥ 2 when m = 0) and counter ions, (B) other photoacid generators selected from II (R201 = aryl, alkenyl; Y = Cl, Br), III (R202 = aryl, alkenyl, alkyl, CY3; Y = same as above), Ar3(SO2)2Ar4 (Ar3, Ar4 = aryl), IV (R206 = alkyl, aryl; A = alkylene, alkenylene, arylene), and (RSO2)2C:N2 (R = alkyl, aryl), (C) alkali-soluble resins, and (D) crosslinkers reacting with the resins in the presence of acids. The pos. compns. contain, instead of C and D, resins increasing their alkali solubility in the presence of acids. The photoresists are sensitive to electron beams, x-ray beams, or extreme UV (EUV).

IT 279244-37-0 288620-13-3 372968-15-5
676552-70-8

(acid-decomposable resin; chemical amplified
neg. and pos. photoresists with high resolution giving good
pattern profiles with no foreign substance)

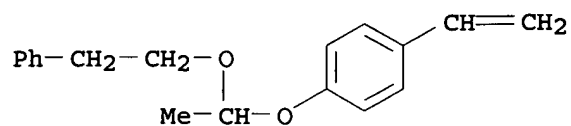
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

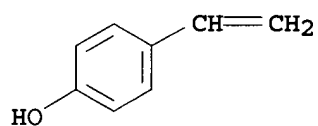
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



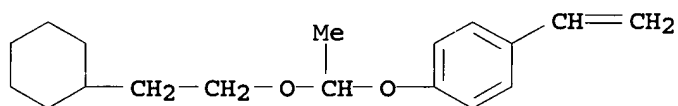
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

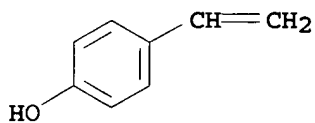
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



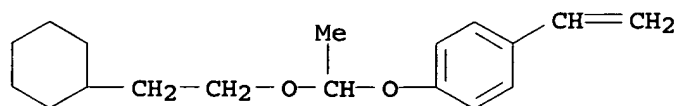
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

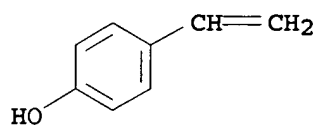
CMF C18 H26 O2



CM 2

CRN 2628-17-3

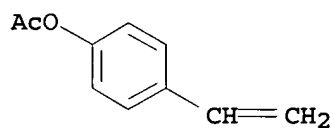
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



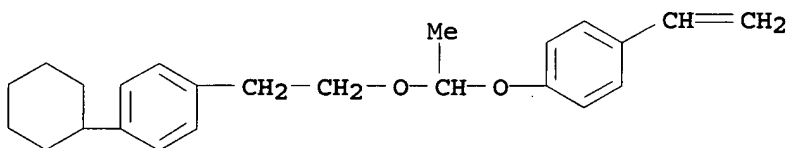
RN 676552-70-8 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-cyclohexyl-4-[2-[1-(4-ethenylphenoxy)ethoxy]ethyl]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 586363-86-2

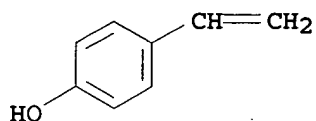
CMF C24 H30 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-004
 ICS G03F007-038; G03F007-039; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes).
 IT 129674-22-2 158593-28-3 159296-87-4 177034-75-2
 200808-68-0 279244-37-0 288620-13-3
 372968-15-5 610301-50-3 676552-70-8
 (acid-decomposable resin; chemical amplified
 neg. and pos. photoresists with high resolution giving good
 pattern profiles with no foreign substance)

L31 ANSWER 20 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:219249 HCAPLUS
 DOCUMENT NUMBER: 140:261414
 TITLE: Positive-type resist compositions with reduced
 out-gas emission for vacuum UV
 microlithography
 INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki,
 Tomoya
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 76 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004086020	A2	20040318	JP 2002-249040	2002 0828

PRIORITY APPLN. INFO.: JP 2002-249040
 2002
 0828

AB The compns., suitable for F2 excimer laser (157 nm) photolithog., contain polymers (A), having repeating units CH₂CR₂Q [Q = C(OR₁)R₃R₄-substituted Ph or cyclohexyl; R₁ = H, C₆-30 organic group; R₂ = H, halo, alkyl; R₃ = CR₄R₅R₆; R₄ = CR₇R₈R₉; R₄-7 = H, F, fluoroalkyl; ≥1 of R₄-9 contain F] and increasing alkali solubility by acid-induced decomposition, photoacid generators (B), and solvents (C).

IT 671817-84-8P 671817-86-0P 671817-95-1P
 671817-97-3P 671817-98-4P
 (acid-decomposable polymer; pos.-working
 photoresists with reduced out-gas emission for vacuum UV
 photolithog.)

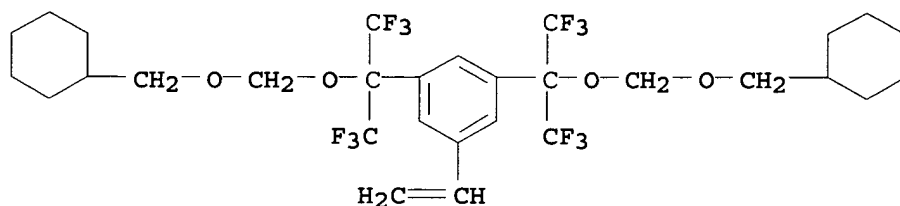
RN 671817-84-8 HCAPLUS
 CN 1,3-Benzenedimethanol, 5-ethenyl- $\alpha,\alpha,\alpha',\alpha'$ -
 tetrakis(trifluoromethyl)-, polymer with 1,3-bis[1-
 [(cyclohexylmethoxy)methoxy]-2,2,2-trifluoro-1-

(trifluoromethyl)ethyl]-5-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 671817-83-7

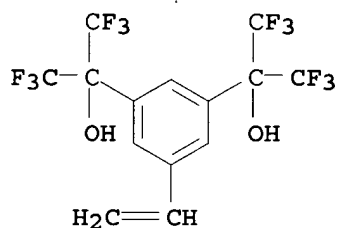
CMF C30 H36 F12 O4



CM 2

CRN 568587-26-8

CMF C14 H8 F12 O2



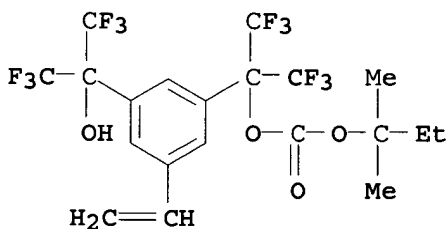
RN 671817-86-0 HCAPLUS

CN Carbonic acid, 1,1-dimethylpropyl 1-[3-ethenyl-5-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 671817-85-9

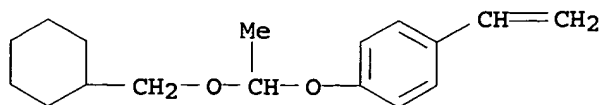
CMF C20 H18 F12 O4



CM 2

CRN 430437-16-4

CMF C17 H24 O2



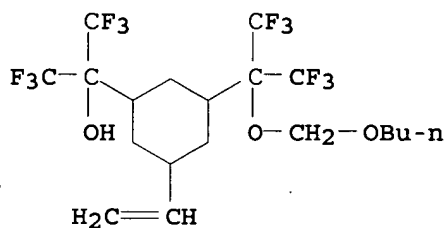
RN 671817-95-1 HCAPLUS

CN Benzenemethanol, 3-[1-(butoxymethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-5-ethenyl- α,α -bis(trifluoromethyl)-, polymer with 3-[1-(butoxymethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-5-ethenyl- α,α -bis(trifluoromethyl)cyclohexanemethanol and 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 671817-94-0

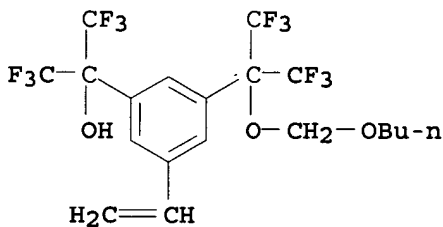
CMF C19 H24 F12 O3



CM 2

CRN 671817-93-9

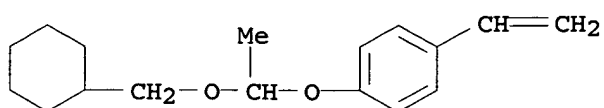
CMF C19 H18 F12 O3



CM 3

CRN 430437-16-4

CMF C17 H24 O2



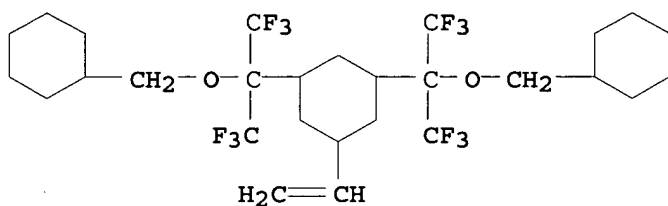
RN 671817-97-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 1,3-bis[1-(cyclohexylmethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-5-ethenylcyclohexane and 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 671817-96-2

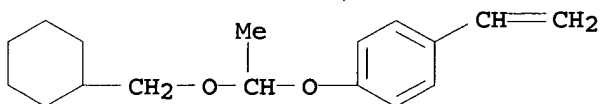
CMF C28 H38 F12 O2



CM 2

CRN 430437-16-4

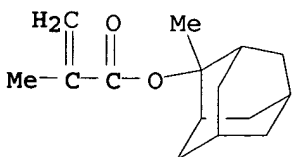
CMF C17 H24 O2



CM 3

CRN 177080-67-0

CMF C15 H22 O2



RN 671817-98-4 HCAPLUS

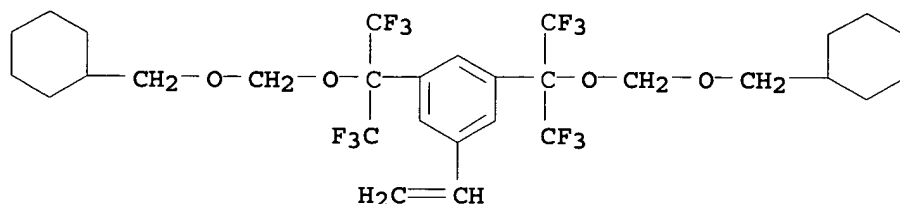
CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with 1,3-bis[1-[(cyclohexylmethoxy)methoxy]-2,2,2-trifluoro-1-

(trifluoromethyl)ethyl]-5-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 671817-83-7

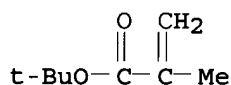
CMF C30 H36 F12 O4



CM 2

CRN 585-07-9

CMF C8 H14 O2



IC ICM G03F007-039

ICS C08F012-22; C08F016-00; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT Fluoropolymers, preparation

(acid-decomposable polymer; pos.-working
photoresists with reduced out-gas emission for vacuum UV
photolithog.)

IT 1625-60-1DP, reaction products with OH- and F-containing phenylvinyl
polymer 585569-81-9DP, reaction products with chloromethyl
cyclohexylmethyl ether 671817-84-8P 671817-86-0P
671817-89-3P 671817-91-7P 671817-92-8P 671817-95-1P
671817-97-3P 671817-98-4P

(acid-decomposable polymer; pos.-working
photoresists with reduced out-gas emission for vacuum UV
photolithog.)

L31 ANSWER 21 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:18781 HCAPLUS

DOCUMENT NUMBER: 140:84637

TITLE: Resist composition

INVENTOR(S): Takahashi, Hyou; Yasunami, Shoichiro;
Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 47 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

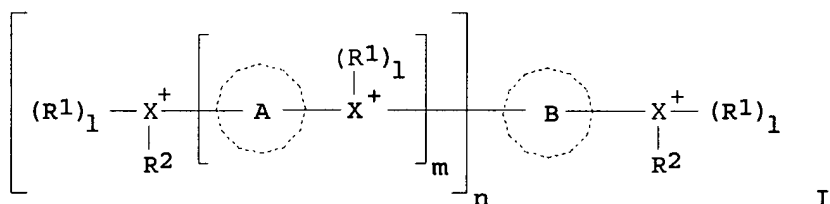
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 2004005513	A1	20040108	US 2003-606845	2003 0627
JP 2004086188	A2	20040318	JP 2003-185174	2003 0627
PRIORITY APPLN. INFO.:			JP 2002-190581	A 2002 0628

OTHER SOURCE(S): MARPAT 140:84637
GI



AB The resist composition of the present invention, ensuring excellent pattern profile and excellent isolation performance for use in the pattern formation by the irradiation of actinic rays or radiation, particularly, electron beam, X ray or EUV light, which comprising (A) a compound having a specific partial structure represented by I [X = sulfur atom, iodine atom; R1, R2 = alkyl, aryl; A, B = hydrocarbon structure; l = 0, 1; m = 0-10; n = 1-5] and a counter ion, the compound generating an acid upon irradiation of actinic rays or radiation, (B) an alkali-soluble resin, and (C) a crosslinking agent of undergoing an addnl. reaction with the alkali-soluble resin.

IT 279244-37-0 288620-13-3 372968-15-5

(acid decomposable resin; resist composition
showing excellent pattern profile and isolation performance)

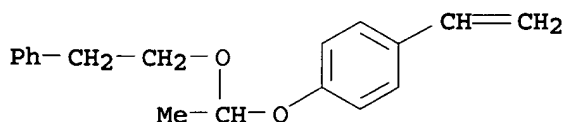
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

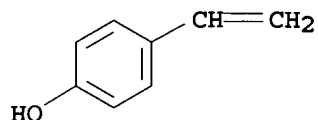
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



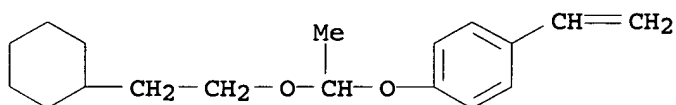
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

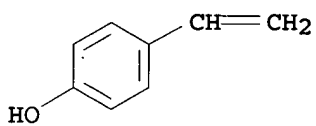
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



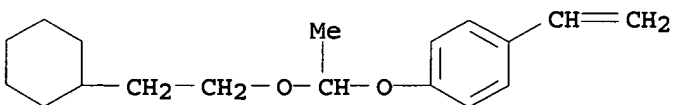
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

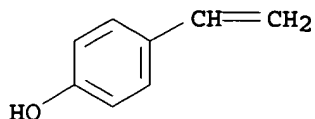
CRN 288620-12-2

CMF C18 H26 O2



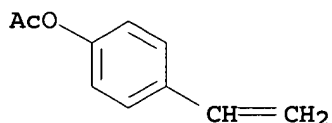
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 2628-16-2
CMF C10 H10 O2



IC ICM G03C001-492
ICS G03C001-494; G03C001-76
INCL 430270100
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 76
IT 326591-96-2P
(acid decomposable resin; resist composition
showing excellent pattern profile and isolation performance)
IT 129674-22-2 158593-28-3 159296-87-4 177034-75-2
200808-68-0 279244-37-0 288620-13-3
372968-15-5 610301-50-3
(acid decomposable resin; resist composition
showing excellent pattern profile and isolation performance)

L31 ANSWER 22 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:945845 HCAPLUS

DOCUMENT NUMBER: 140:21261

TITLE: Photosensitive resin composition for
photolithography

INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki,
Tomoya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 71 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2003344994	A2	20031203	JP 2002-154391	2002

PRIORITY APPLN. INFO.:

JP 2002-154391

0528

2002

0528

AB The composition contains (A) a polymer with repeating unit R50R51R52CC(OR40)CR53R54R55 [R50-55 = H, F, (substituted) alkyl; ≥ 1 of R50-55 is F or F-substituted alkyl; R40 = H, (substituted) (cyclo)alkyl, (substituted) acyl, (substituted) alkoxycarbonyl, CR41R42(OR43); R41-42 = H, (substituted) (cyclo)alkyl; R43 = (substituted) (cyclo)alkyl, (substituted) aralkyl, (substituted) aryl; 2 of R41-43 may bond to form a ring], which decomp. by the action of acid and increases its solubility to alkali developer, (B) a compound generating acid by irradiation of actinic ray, and (C) a solvent having ≥ 1 F in a mol. The composition shows good solvent solubility, coatability, improved line edge roughness, and without striation, and is useful for photolithog. in manufacture of large-scaled integrates, etc.

IT 485390-44-1

(photoresist composition containing acid-decomposable polymer, acid generator, and F-containing solvent)

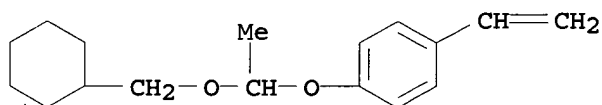
RN 485390-44-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene and 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 430437-16-4

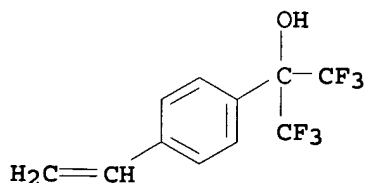
CMF C17 H24 O2



CM 2

CRN 2386-82-5

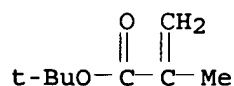
CMF C11 H8 F6 O



CM 3

CRN 585-07-9

CMF C8 H14 O2



IC ICM G03F007-004
ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

IT Photolithography
Photoresists
(photoresist composition containing **acid-decomposable** polymer, acid generator, and F-containing solvent)

IT 144317-44-2P, Triphenylsulfonium nonafluorobutanesulfonate
430437-18-6P 485390-42-9P 607710-77-0P
(photoresist composition containing **acid-decomposable** polymer, acid generator, and F-containing solvent)

IT 1511-10-0, Triphenylsulfonium trifluoroacetate 19600-49-8,
Triphenylsulfonium acetate 143336-94-1 153698-46-5,
Triphenylsulfonium pentafluorobenzenesulfonate 187082-74-2
241806-75-7 338445-29-7 365971-70-6 365971-71-7
367522-49-4 422508-63-2 444617-77-0 444617-78-1
485390-41-8 **485390-44-1** 485390-45-2 485390-46-3
485390-47-4 485390-49-6 485390-52-1 485390-55-4
485390-58-7 485390-60-1 485390-62-3 485390-63-4
485390-65-6 500212-80-6 500212-90-8 518027-87-7
629648-89-1 629648-90-4 629648-92-6 629648-93-7
629648-94-8 629648-95-9 629648-97-1 629648-99-3
629649-01-0 629649-02-1 629649-03-2 629649-04-3
(photoresist composition containing **acid-decomposable** polymer, acid generator, and F-containing solvent)

IT 97-64-3, Ethyl lactate 321-28-8, 2-Fluoroanisole 371-26-6,
Ethyl 4,4,4-trifluorobutyrate 1320-67-8, Propylene glycol
monomethylether 84540-57-8, Propylene glycol monomethylether
acetate 91600-33-8 143484-00-8 629649-86-1
(solvent; photoresist composition containing **acid-decomposable** polymer, acid generator, and F-containing solvent)

L31 ANSWER 23 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:853315 HCAPLUS

DOCUMENT NUMBER: 139:356046

TITLE: Chemically amplified positive-working photoresist composition

INVENTOR(S): Hyakuta, Atsushi; Kawabe, Yasumasa

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003307840	A2	20031031	JP 2003-35222	

2003
0213

PRIORITY APPLN. INFO.:

JP 2002-35817

A

2002
0213

OTHER SOURCE(S): MARPAT 139:356046

AB The claimed composition comprises (a) a resin increasing its alkali solubility by **acid decomposition** and (b) compds. capable of generating an acid upon irradiation with an actinic ray or a radiation (1) an oximesulfonate compound $R_1R_2C:NOO_2SR_3$ (R_1 and R_2 = alkyl, alkenyl, alkynyl, aryl, heterocyclic, or cyano; R_1 and R_2 may combine to form a ring; R_3 = alkyl or aryl) and (2) an onium salt $R_{11}N+R_{12}R_{13}R_{14}X^-$, $R_{15}S+R_{16}R_{17}X^-$, and/or $R_{18}I+R_{19}X^-$ (R_{11} - R_{19} = alkyl, cycloalkyl, acyl, or aryl; X^- = OH^- or anion of carboxylic acid having mol. weight ≤ 100). The composition provides suppressed line edge roughness and high PED (post-exposure delay) stability.

IT 288620-13-3P 325143-37-1P 618115-25-6P

(chemical amplified pos.-working photoresist composition containing oximesulfonate compound and onium salt)

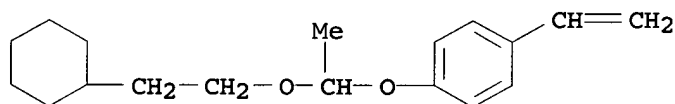
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

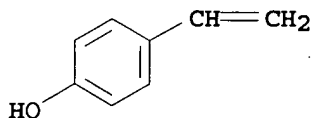
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



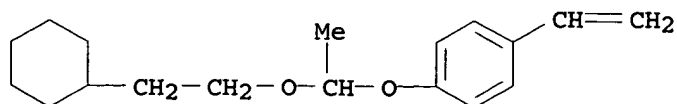
RN 325143-37-1 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

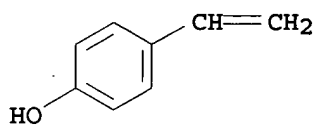
CMF C18 H26 O2



CM 2

CRN 2628-17-3

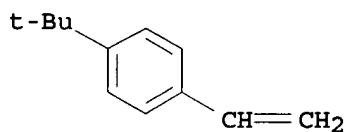
CMF C8 H8 O



CM 3

CRN 1746-23-2

CMF C12 H16



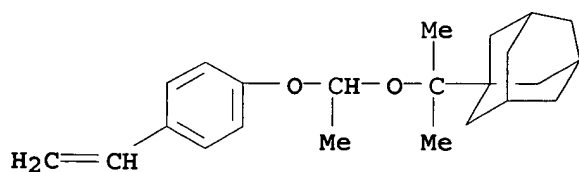
RN 618115-25-6 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-(1-ethoxyethoxy)benzene and 1-[1-[1-(4-ethenylphenoxy)ethoxy]-1-methylethyl]tricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 618115-24-5

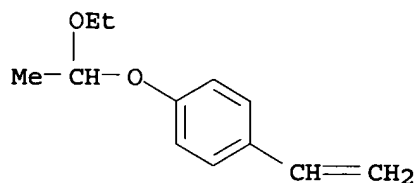
CMF C23 H32 O2



CM 2

CRN 157057-20-0

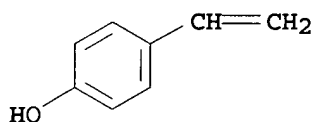
CMF C12 H16 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-004

ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 158593-28-3P, p-1-Ethoxyethoxystyrene-p-hydroxystyrene copolymer
 159296-87-4P, tert-Butyl acrylate-p-hydroxystyrene copolymer
 287381-52-6P, p-1-Ethoxyethoxystyrene-p-hydroxystyrene-p-isopropoxystyrene copolymer **288620-13-3P**
325143-37-1P 618115-23-4P 618115-25-6P

(chemical amplified pos.-working photoresist composition containing oximesulfonate compound and onium salt)

L31 ANSWER 24 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:853314 HCAPLUS

DOCUMENT NUMBER: 139:343479

TITLE: Sulfonium compounds as radiation-sensitive
acid generators and
resist compositions
 containing them

INVENTOR(S): Kodama, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003307839	A2	20031031	JP 2002-112372	

2002

0415

PRIORITY APPLN. INFO.:

JP 2002-112372

2002

0415

OTHER SOURCE(S): MARPAT 139:343479

AB (Ba)mAaS+Y1Y2 X- (I; Y1, Y2 = alkyl, aryl, aralkyl, heterocyclyl, oxoalkyl, oxoaralkyl; Y1 and Y2 may be bonded together to form a ring; Aa = direct bond, organic group; Ba = group having CONRa or SO2NRa; Ra = H, alkyl; m = 1-3; X- = nonnucleophilic anion), which **generate acids** upon irradiation with actinic ray or radiation, are claimed. Also claimed are **resist compns.** containing I, **pos.-working resist compns.** containing I and resins which are decomposed by acids to show increased solubility to an alkaline developer, **neg.-working resist compns.** containing I, water-insol. alkali-soluble resins, and crosslinking agents which crosslink to the alkali-soluble resins by acids, etc. The **resist compns.** containing I show high sensitivity, resolution, and good profile, and are especially suitable for irradiation with far-UV and electron beam.

IT 288620-13-3P 288620-15-5P 289706-85-0P
372968-15-5P

(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)

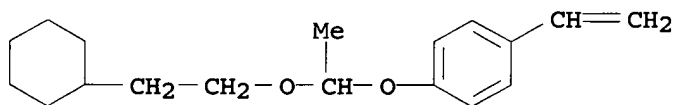
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

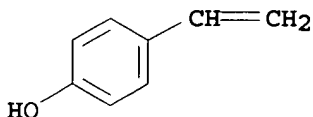
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



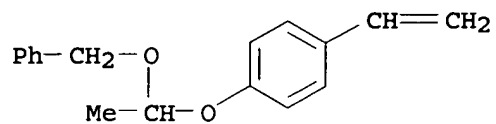
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

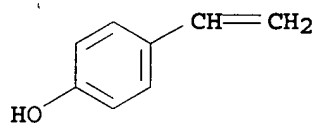
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



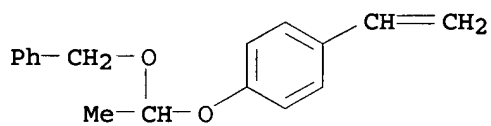
RN 289706-85-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and
1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 288620-14-4

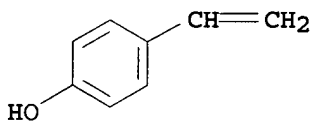
CMF C17 H18 O2



CM 2

CRN 2628-17-3

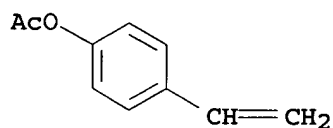
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



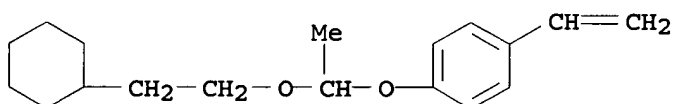
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

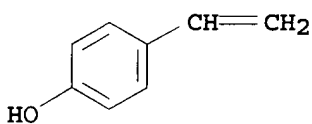
CMF C18 H26 O2



CM 2

CRN 2628-17-3

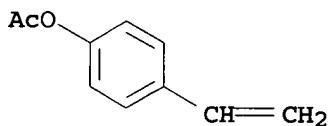
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-004

ICS C07C381-12; C08F012-14; C08F220-18; C08F220-26; C08F232-04; C09K003-00; G03F007-038; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

ST amide linkage contg sulfonium salt **photoacid generator** resist; sulfonamide linkage contg sulfonium salt **photoacid generator** resist

- IT Resists
(neg.-working; preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT Resists
(pos.-working; preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT Resists
(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 141-07-1 3089-11-0 4356-60-9 17464-88-9 161679-94-3
162846-57-3 162846-59-5 185502-14-1
(crosslinking agent; preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 153698-63-6 153698-65-8
(dissoln. inhibitor; preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 617692-21-4 617692-22-5 617692-23-6 617692-24-7
617692-25-8 617692-26-9 617692-27-0 617692-29-2
617692-31-6 617692-33-8 617692-34-9 617692-36-1
617692-38-3 617692-40-7 617692-42-9 617692-44-1
617692-46-3 617692-47-4 617692-49-6 617692-51-0
617692-53-2 617692-55-4 617692-57-6
(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 617692-19-0P
(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 110-01-0, Tetrahydrothiophene 110-89-4, Piperidine, reactions
14104-20-2, Silver tetrafluoroborate 29420-49-3, Potassium nonafluorobutanesulfonate
(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 1440-60-4P, N-Chloroacetyl piperidine 617692-18-9P
(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)
- IT 109-92-2DP, Ethyl vinyl ether, reaction products with poly(hydroxystyrene) 129674-22-2P 143336-94-1P 159296-87-4P
177034-73-0P 177034-75-2P 199432-82-1P 200808-68-0P
228101-60-8P 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 288620-13-3P
288620-15-5P 289623-64-9P 289706-85-0P
312620-54-5P 325143-38-2P 326591-96-2P 359635-35-1P

366808-82-4P 370866-39-0P **372968-15-5P** 391232-36-3P
 398140-38-0P 398140-43-7P 398140-45-9P 398140-57-3P
 398140-59-5P 398140-68-6P 398140-69-7P 398140-77-7P
 398140-80-2P 405509-19-5P 406702-00-9P 430437-18-6P
 459418-30-5P 482609-97-2P 503003-65-4P 508210-04-6P
 521303-15-1P 521303-16-2P 524699-47-6P 574735-94-7P
 594855-58-0P 607710-65-6P 607710-66-7P 607710-67-8P
 607710-68-9P 607710-69-0P 607710-70-3P 607710-71-4P
 607710-72-5P 607710-73-6P 607710-76-9P 607710-77-0P
 610300-92-0P 610300-96-4P 610300-97-5P 610300-98-6P
 610301-00-3P 610301-01-4P 610301-03-6P 610301-04-7P
 610301-05-8P 615278-35-8P 617692-20-3P

(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)

IT 24979-69-9 185405-14-5 321164-59-4 345212-27-3
 (preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)

IT 24979-70-2P, VP 15000
 (reaction products with Et vinyl ether; preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive **acid generators** and **resist compns.** containing them)

L31 ANSWER 25 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:754897 HCAPLUS

DOCUMENT NUMBER: 139:252537

TITLE: **Positive resist composition**

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 89 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1347335	A1	20030924	EP 2003-6122	2003 0318
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2003270791	A2	20030925	JP 2002-74565	2002 0318
US 2003224287	A1	20031204	US 2003-388408	2003 0317
PRIORITY APPLN. INFO.:				JP 2002-74565 A
				2002 0318

AB A **pos. photoresist composition** used in fabrication of semiconductor devices comprises: (A) a compound capable of **generating an acid** on exposure to active light rays or a radiation; (B) a resin which is insol. or sparingly soluble in an alkali and becomes alkali-soluble by an action of an acid; and (C) an acyclic compound having at least three groups selected from a hydroxyl group and a substituted hydroxyl group.

IT 430437-17-5P

(**pos. photoresist composition** containing)

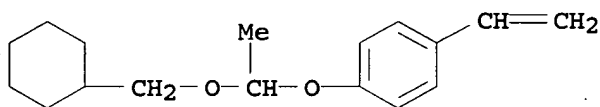
RN 430437-17-5 HCAPLUS

CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-, polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 430437-16-4

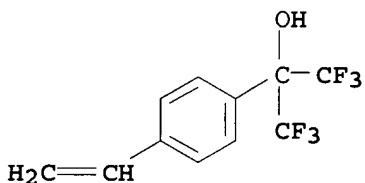
CMF C17 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



IC ICM G03F007-039

ICS G03F007-004

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38

ST **pos photoresist compn**

IT **Photoresists**

(**pos. resist composition**)

IT Polysiloxanes, uses
(surface active agent; **pos. photoresist composition** containing)

IT 102-82-9, Tributylamine 102-87-4, Tridodecylamine 120-07-0
484-47-9 1116-76-3, Trioctylamine 1122-58-3,
4-Dimethylaminopyridine 2403-88-5, 2,2,6,6-Tetramethyl-4-
hydroxypiperidine 3001-72-7, {1,5-Diazabicyclo[4.3.0]-5-nonene}
6674-22-2, {1,8-Diazabicyclo[5.4.0]-7-undecene} 153921-59-6,
Diisopropylaniline
(basic compound; **pos. photoresist**)

composition containing)
 IT 109-92-2DP, Ethyl vinyl ether, reaction product with
 polyhydroxystyrene 24979-70-2DP, VP15000, reaction product with
 alkyl vinyl ether 159296-87-4P 200808-68-0P 250378-10-0P,
 Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate
 copolymer 262617-13-0P 288303-55-9P 325143-38-2P
 364736-22-1P 391232-36-3P 398140-43-7P 398140-45-9P
 398140-47-1P 398140-50-6P 398140-52-8P 398140-55-1P
 398140-57-3P 398140-59-5P 398140-64-2P 398140-69-7P
 398140-73-3P 398140-77-7P 398140-78-8P 398140-79-9P
 398140-81-3P 398140-88-0P, tert-Butyl norbornenecarboxylate-
 maleic anhydride-2-methyl-2-adamantyl acrylate-norbornene lactone
 acrylate copolymer 398140-89-1P 398140-94-8P 398141-00-9P
 398141-11-2P 398141-13-4P 398141-14-5P 405509-18-4P
 430436-66-1P 430436-67-2P 430436-68-3P 430436-70-7P
 430436-72-9P 430436-74-1P 430436-76-3P 430436-78-5P
 430436-79-6P 430436-81-0P 430436-82-1P 430436-84-3P
 430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P
 430436-90-1P 430436-91-2P 430436-92-3P 430436-94-5P
 430436-95-6P 430436-97-8P 430436-98-9P 430436-99-0P
 430437-01-7P 430437-03-9P 430437-04-0P 430437-05-1P
 430437-09-5P 430437-11-9P 430437-12-0P 430437-13-1P
 430437-14-2P 430437-15-3P 430437-17-5P 430437-18-6P
 430437-19-7P 430437-21-1P 430437-24-4P 431062-12-3P
 431062-14-5P 431062-16-7P 431062-17-8P 431062-18-9P
 431062-20-3P 431062-22-5P 462109-80-4P 471257-28-0P
 503003-64-3P 597553-03-2P 597553-04-3P

(**pos. photoresist composition** containing)

IT 50-70-4, Sorbitol, uses 69-65-8, Mannitol 7493-90-5, Threitol
 52894-25-4, 1,2,7,8-Octanetetrol 597553-05-4 597553-06-5

(**pos. photoresist composition** containing)

IT 137462-24-9, Megafac F176 216679-67-3, Megafac R08

(surface active agent; **pos. photoresist**

composition containing)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L31 ANSWER 26 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:735196 HCAPLUS

DOCUMENT NUMBER: 139:267983

TITLE: **Positive-working photoresist**
composition containing polymer with
 fluoro-aliphatic group

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 88 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003262952	A2	20030919	JP 2002-65444	2002 0311

PRIORITY APPLN. INFO.:

JP 2002-65444

2002
0311

AB The composition contains (A) a compound **generating** an **acid** by irradiation of actinic ray, (B) a resin which decomp. by the action of an acid and whose solubility in alkaline developer increases, and (C) a polymer with fluoro-aliphatic group formed from a monomer $\text{CH}_2:\text{CR}_1\text{COX}(\text{CH}_2)_m(\text{CF}_2\text{CF}_2)_n\text{F}$ ($\text{R}_1 = \text{H, Me}$; $\text{X} = \text{O, S, NR}_2$; $m = 1-6$; $n = 2-4$; $\text{R}_2 = \text{H, C1-4 alkyl}$). Developing defect is prevented and the composition is useful for manufacture of integrated circuits, semiconductor device, and wiring substrates.

IT **430437-07-3P 430437-17-5P**
(pos. photoresist composition containing
polymer with fluoro-aliphatic group)

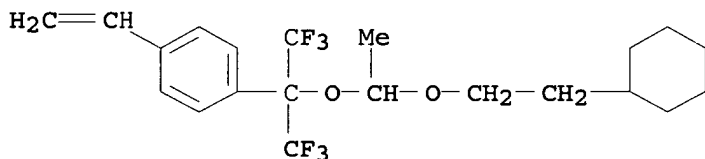
RN 430437-07-3 HCAPLUS

CN 2-Propenenitrile, 2-methyl-, polymer with 1-[1-[1-(2-cyclohexylethoxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-4-ethenylbenzene and 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 430437-06-2

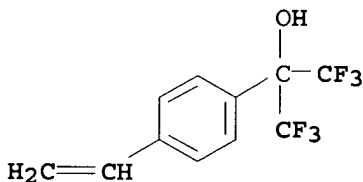
CMF C21 H26 F6 O2



CM 2

CRN 2386-82-5

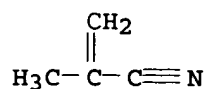
CMF C11 H8 F6 O



CM 3

CRN 126-98-7

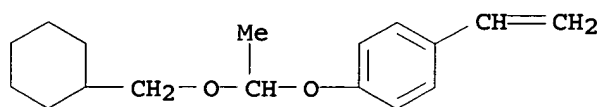
CMF C4 H5 N



RN 430437-17-5 HCAPLUS
 CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-,
 polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene
 (9CI) (CA INDEX NAME)

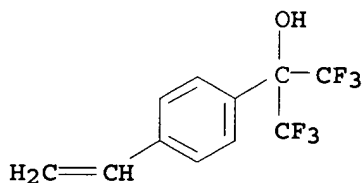
CM 1

CRN 430437-16-4
 CMF C17 H24 O2



CM 2

CRN 2386-82-5
 CMF C11 H8 F6 O



IC ICM G03F007-004
 ICS C08F020-22; C08F020-38; C08F020-54; C08F020-68; C08F020-70;
 G03F007-033; G03F007-039; H01L021-027
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38
 ST **pos photoresist** acrylic polymer fluoroaliph
 group
 IT Surfactants
 (fluorosurfactants; **pos. photoresist**
composition containing polymer with fluoro-aliphatic group)
 IT **Positive photoresists**
 (**pos. photoresist composition** containing
 polymer with fluoro-aliphatic group)
 IT Integrated circuits
 (**pos. photoresist composition** containing
 polymer with fluoro-aliphatic group for manufacture of integrated
 circuits)
 IT Semiconductor device fabrication
 (**pos. photoresist composition** containing
 polymer with fluoro-aliphatic group for semiconductor device

fabrication)
 IT 66003-78-9 133710-62-0 138529-84-7 160481-39-0 205682-99-1
 241806-75-7 258872-05-8 284474-28-8 300374-81-6
 301664-71-1 389859-76-1 391232-40-9 398141-18-9
 462653-49-2

(acid generator; pos.

photoresist composition containing polymer with
 fluoro-aliphatic group)

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl
 methacrylate copolymer 262617-13-0P 328061-11-6P
 350992-58-4P 351197-82-5P 359635-35-1P 364736-22-1P
 367283-78-1P 391232-36-3P 398140-38-0P 398140-43-7P
 398140-45-9P 398140-57-3P 398140-64-2P 398140-69-7P
 398140-79-9P 398140-86-8P 398140-87-9P 398140-88-0P
 398140-89-1P 398141-00-9P 398141-11-2P 398141-14-5P
 430436-66-1P 430436-67-2P 430436-68-3P 430436-70-7P
 430436-72-9P 430436-74-1P 430436-76-3P 430436-78-5P
 430436-79-6P 430436-81-0P 430436-82-1P 430436-84-3P
 430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P
 430436-90-1P 430436-91-2P 430436-92-3P 430436-94-5P
 430436-95-6P 430436-97-8P 430436-98-9P 430436-99-0P
 430437-01-7P 430437-03-9P 430437-04-0P 430437-05-1P
 430437-07-3P 430437-09-5P 430437-11-9P 430437-12-0P
 430437-13-1P 430437-14-2P 430437-15-3P 430437-17-5P
 430437-18-6P 430437-19-7P 430437-21-1P 430437-22-2P
 430437-24-4P 431062-12-3P 431062-14-5P 431062-16-7P
 431062-17-8P 431062-18-9P 431062-20-3P 431062-22-5P
 482609-97-2P 503003-64-3P 524699-47-6P 532989-17-6P
 601490-00-0P 601490-01-1P 601490-02-2P 601490-03-3P

(pos. photoresist composition containing
 polymer with fluoro-aliphatic group)

IT 601490-04-4 601490-06-6 601490-07-7 601490-09-9
 601490-10-2 601490-11-3 601490-12-4 601490-13-5
 601490-14-6 601491-23-0 602299-24-1 602299-25-2
 602299-26-3 602299-27-4 602299-28-5 602299-29-6
 602299-30-9 602299-31-0 602299-32-1 602299-33-2
 602299-34-3 602299-35-4

(surfactant; pos. photoresist compn

. containing polymer with fluoro-aliphatic group)

L31 ANSWER 27 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:674155 HCAPLUS

DOCUMENT NUMBER: 139:205041

TITLE: Positive photoresists showing superior
 transparency to F2 excimer laser light and
 high sensitivity

INVENTOR(S): Sasaki, Tomoya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 80 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003241380	A2	20030827	JP 2002-46283	2002

PRIORITY APPLN. INFO.:

JP 2002-46283

0222

2002

0222

AB The photoresists, useful for semiconductor manufacturing under sub-quarter-micron design rules, comprise (A) polymers increasing alkali solubility upon acid action and having unit $\text{CR}_1\text{R}_2\text{CR}_3(\text{C}_6\text{H}_4\text{L}_1\text{XNHR}_4)$ ($\text{R}_1\text{-R}_3 = \text{H, Cl, CN, Me, F, fluoroalkyl}$, where ≥ 1 of them is F or fluoroalkyl; $\text{L}_1 = \text{single bond or bivalent bridging group}$; $\text{X} = \text{CO, SO}_2$; $\text{R}_4 = \text{H, monovalent organic group}$) and (B) radiation-sensitive acid generators.

IT 586363-80-6P 586363-87-3P

(binder polymers; chemical amplified pos. photoresists containing amido- and fluorine-bearing binder polymers of high transparency to F2 excimer lasers)

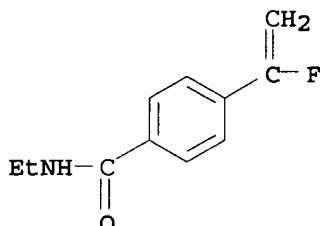
RN 586363-80-6 HCAPLUS

CN Benzamide, N-ethyl-4-(1-fluoroethenyl)-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 586363-78-2

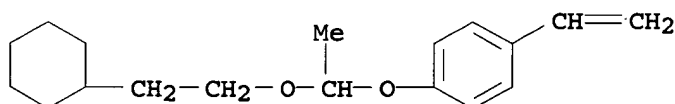
CMF C11 H12 F N O



CM 2

CRN 288620-12-2

CMF C18 H26 O2



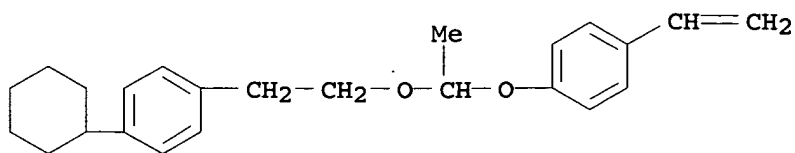
RN 586363-87-3 HCAPLUS

CN Benzenesulfonamide, 4-(2-fluoroethenyl)-N-(2,2,2-trifluoroethyl)-, polymer with 1-cyclohexyl-4-[2-[1-(4-ethenylphenoxy)ethoxy]ethyl]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 586363-86-2

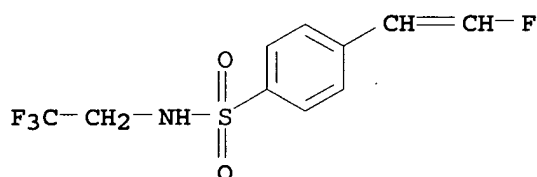
CMF C24 H30 O2



CM 2

CRN 586363-84-0

CMF C10 H9 F4 N O2 S



IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST amplified pos photoresist fluorine laser transparency sensitivity; sulfonamido substituted arom binder photoresist laser transparency; fluorine fluoroalkyl substituted **acid labile** photoresist binderIT 1663-39-4DP, tert-Butyl acrylate, polymers with fluoromethylphenylfluorostyrylsulfonamide 326591-95-1DP, polymers with fluoromethylphenylfluorostyrylsulfonamide 586363-79-3P **586363-80-6P** 586363-82-8P 586363-83-9P 586363-85-1P **586363-87-3P** 586363-88-4DP, methoxymethylated, polymers with **acid-labile** monomers 586363-89-5P 586363-90-8P

(binder polymers; chemical amplified pos. photoresists containing amido- and fluorine-bearing binder polymers of high transparency to F2 excimer lasers)

L31 ANSWER 28 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:671499 HCAPLUS

DOCUMENT NUMBER: 139:205039

TITLE: Positive photoresists showing superior transparency to 157-nm excimer laser light and high sensitivity

INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

USHA SHRESTHA EIC 1700 REM 4B28

JP 2003241382

A2

20030827

JP 2002-46285

2002
0222

PRIORITY APPLN. INFO.:

JP 2002-46285

2002
0222

AB The photoresists, suited for F2 excimer laser lithog., comprise
(A) polymers increasing alkali solubility upon acid action and having
repeating unit XNHR1 (R1 = F-containing monovalent organic group; X = CO,
SO2) and (B) radiation-sensitive acid generators.

IT 586395-02-0P

(binder polymers; chemical amplified pos. photoresists containing
F-substituted acrylamide polymers and showing high transparency
to 157-nm light)

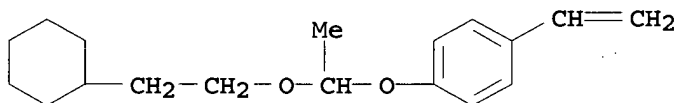
RN 586395-02-0 HCAPLUS

CN 2-Propenamide, N-(2,2,2-trifluoroethyl)-, polymer with
1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX
NAME)

CM 1

CRN 288620-12-2

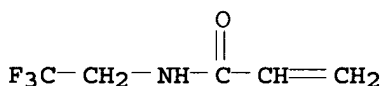
CMF C18 H26 O2



CM 2

CRN 407-46-5

CMF C5 H6 F3 N O



IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 38

ST amplified pos photoresist fluorine laser transparency sensitivity;
fluoroethylacrylamide butoxystyrene acid labile
photoresist binder

IT 586395-00-8P 586395-02-0P 586395-05-3P 586395-07-5P

586395-10-0P 586395-11-1P 586395-13-3P 586395-15-5P

586395-18-8P 586395-20-2P

(binder polymers; chemical amplified pos. photoresists containing
F-substituted acrylamide polymers and showing high transparency
to 157-nm light)

L31 ANSWER 29 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:671498 HCAPLUS
 DOCUMENT NUMBER: 139:188320
 TITLE: Positive photoresists showing superior
 transparency to 157-nm light and excellent
 sensitivity
 INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna,
 Shinichi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003241381	A2	20030827	JP 2002-46284	2002 0222
PRIORITY APPLN. INFO.: JP 2002-46284				2002 0222

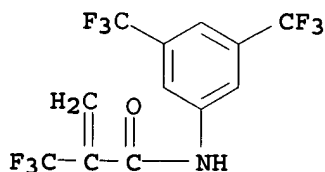
AB The photoresists, useful for F2 excimer laser lithog., comprise
 (A) resins increasing alkali solubility upon acid action and having
 repeating unit CR₁R₂CR₃(L₁XNHR₄) (R₁-R₃ = H, Cl, CN, Me, F,
 fluoroalkyl, where ≥1 of them is F or fluoroalkyl; L₁ =
 single bond, bivalent bridging group; X = CO, SO₂; R₄ = monovalent
 organic group) and (B) radiation-sensitive acid generators.

IT 581804-59-3P
 (binders; chemical amplified pos. photoresists containing
 fluoro-containing **acid-labile** binders showing
 high transparency to 157-nm light)

RN 581804-59-3 HCAPLUS
 CN 2-Propenamide, N-[3,5-bis(trifluoromethyl)phenyl]-2-
 (trifluoromethyl)-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
 4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

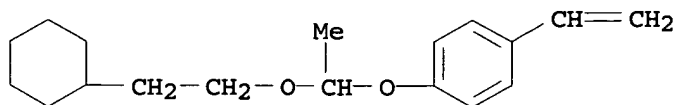
CRN 581804-57-1
 CMF C12 H6 F9 N O



CM 2

CRN 288620-12-2

CMF C18 H26 O2



IC ICM G03F007-039
ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST amplified pos photoresist fluorine laser transparency;
fluoroacryladamantylamide butoxystyrene **acid labile** photoresist binder

IT Positive photoresists
(chemical amplified; chemical amplified pos. photoresists containing fluoro-containing **acid-labile** binders showing high transparency to 157-nm light)

IT 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate
(acid generators; chemical amplified pos. photoresists containing fluoro-containing **acid-labile** binders showing high transparency to 157-nm light)

IT 252551-60-3P 581804-50-4P 581804-51-5P 581804-54-8P
581804-55-9P 581804-56-0P 581804-58-2P **581804-59-3P**
581804-61-7P 581804-62-8P
(binders; chemical amplified pos. photoresists containing fluoro-containing **acid-labile** binders showing high transparency to 157-nm light)

IT 581804-48-0P 581804-49-1P
(chemical amplified pos. photoresists containing fluoro-containing **acid-labile** binders showing high transparency to 157-nm light)

IT 381-98-6, 2-(Trifluoromethyl)acrylic acid 421-85-2,
Trifluoromethanesulfonamide 430-99-9, 2-Fluoroacrylic acid
13074-39-0, 2-Adamantanamine
(in monomer synthesis; chemical amplified pos. photoresists containing fluoro-containing **acid-labile** binders showing high transparency to 157-nm light)

L31 ANSWER 30 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:470377 HCAPLUS

DOCUMENT NUMBER: 139:44224

TITLE: **Positive-working resist****composition** containing specific
fluorine group-containing resinINVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Kodama,
Kunihiko; Sasaki, Tomoya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 80 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 EP 1319981 A2 20030618 EP 2002-27667 2002
 1212
 EP 1319981 A3 20030723
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
 EE, SK
 US 2003194650 A1 20031016 US 2002-317110 2002
 1212
 JP 2003241386 A2 20030827 JP 2002-362629 2002
 1213
 PRIORITY APPLN. INFO.: JP 2001-380104 A 2001
 1213
 JP 2001-380105 A 2001
 1213

AB The invention relates to a **pos. resist composition** comprising (A) a fluorine group-containing resin, which has a structure substituted with a fluorine atom in the main chain and/or side chain of polymer skeleton and a group that is decomposed by the action of an acid to increase solubility in an alkali developer and (B) an **acid generator** capable of **generating an acid** upon irradiation of an actinic ray or radiation, and the **acid generator** of (B) is a compound selected from a sulfonium salt containing no aromatic ring and a compound having a phenacylsulfonium salt structure. The composition is capable of forming a highly precise pattern using a vacuum UV ray of ≤ 160 nm such as F2 excimer laser beam as a light source for exposure.

IT 430437-07-3P 430437-17-5P

(fluorine group-containing resin)

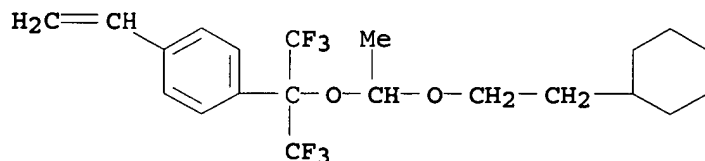
RN 430437-07-3 HCAPLUS

CN 2-Propenenitrile, 2-methyl-, polymer with 1-[1-[1-(2-cyclohexylethoxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-4-ethenylbenzene and 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

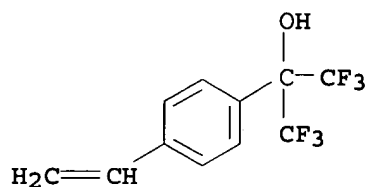
CRN 430437-06-2

CMF C21 H26 F6 O2



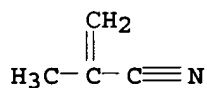
CM 2

CRN 2386-82-5
CMF C11 H8 F6 O



CM 3

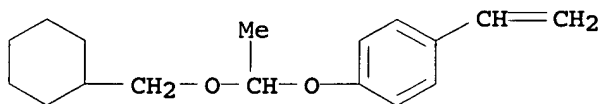
CRN 126-98-7
CMF C4 H5 N



RN 430437-17-5 HCAPLUS
CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-,
polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene
(9CI) (CA INDEX NAME)

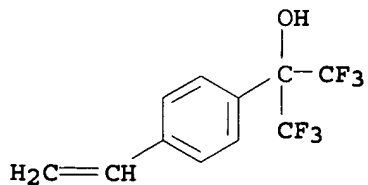
CM 1

CRN 430437-16-4
CMF C17 H24 O2



CM 2

CRN 2386-82-5
CMF C11 H8 F6 O



IC ICM G03F007-004
ICS G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35

ST pos resist compn fluorine resin

IT Positive photoresists

(pos.-working resist composition)

IT 262617-13-0P 430436-66-1P 430436-68-3P 430436-72-9P
430436-74-1P 430436-76-3P 430436-78-5P 430436-79-6P
430436-81-0P 430436-84-3P 430436-85-4P 430436-87-6P
430436-90-1P 430436-92-3P 430436-94-5P 430436-99-0P
430437-03-9P 430437-07-3P 430437-12-0P 430437-13-1P
430437-14-2P 430437-15-3P 430437-17-5P 430437-18-6P
430437-19-7P 430437-21-1P 430437-22-2P 430437-29-9P
430437-33-5P 430437-35-7P 430437-40-4P 431062-12-3P
431062-17-8P 431062-22-5P 462109-80-4P 485390-42-9P
540729-50-8P 540729-51-9P 540729-52-0P 540729-54-2P
540729-55-3P

(fluorine group-containing resin)

IT 1886-74-4 22040-25-1 160481-39-0 171292-12-9 205682-99-1
299416-57-2 301153-77-5 301153-78-6 301664-71-1
347193-28-6 347193-29-7 371921-65-2 383367-32-6
393171-41-0 398141-21-4 414911-52-7 454471-17-1
454471-22-8 454471-23-9 454471-25-1 455521-76-3
455521-81-0 455521-85-4 455521-89-8 477328-14-6
540729-47-3 540729-49-5

(photoacid generators)

L31 ANSWER 31 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:390317 HCAPLUS

DOCUMENT NUMBER: 138:409368

TITLE: Positive-working resist composition showing
excellent sensitivity, resolution, and pattern
profile

INVENTOR(S): Takahashi, Omote; Yasunami, Shoichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2003149800	A2	20030521	JP 2001-346121	2001 1112
PRIORITY APPLN. INFO.:			JP 2001-346121	2001 1112

OTHER SOURCE(S): MARPAT 138:409368

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

*

AB The title pos.-working resist composition, sensitive to an electron beam, x-ray, and 150-250 nm excimer laser, comprises (A) an acid generator represented by I ($W = CH_2, CYH, NH$; $Y = aryl, alkyl$; $R_{1a-8a} = H, halo, OH, thiol, nitro, cyano, carboxyl, amino, alkyl, alkoxy$), II ($R_{1-15} = H, alkyl, alkoxy, hydroxy, halo, SR_{38}$; $R_{38} = alkyl, aryl$; $X = F$ -containing alkylsulfonic acid, benzenesulfonic acid, naphthalenesulfonic acid, anthracenesulfonic acid), III ($R_{16-27} = H, alkyl, alkoxy, hydroxy, halo, SR_{38}$; $R_{38} = alkyl, aryl$; $X = F$ -containing alkylsulfonic acid, benzenesulfonic acid, naphthalenesulfonic acid, anthracenesulfonic acid), or IV ($R_{28-37} = H, alkyl, alkoxy, hydroxy, halo, SR_{38}$; $R_{38} = alkyl, aryl$; $X = F$ -containing alkylsulfonic acid, benzenesulfonic acid, naphthalenesulfonic acid, anthracenesulfonic acid), and (B) a polymer which is insol. or difficult soluble to an alkaline aqueous solution and becomes soluble to the alkaline aqueous solution upon an interaction with the generated acid, and optionally (C) a N-containing base compound

IT 279244-37-0 288620-13-3 359434-80-3
(acid decomposable polymer; pos.-working resist composition showing excellent sensitivity, resolution, and pattern profile)

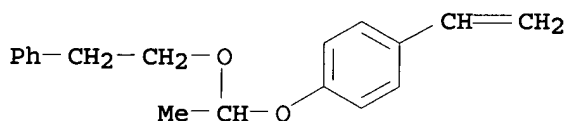
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

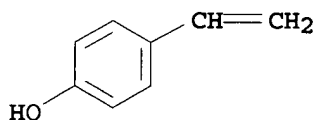
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



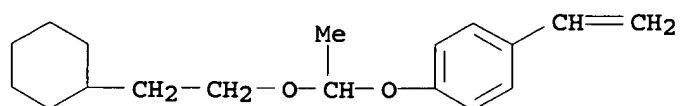
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

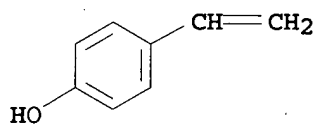
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



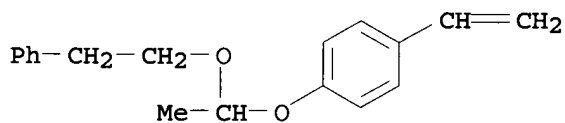
RN 359434-80-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and
1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 246157-37-9

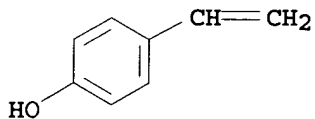
CMF C18 H20 O2



CM 2

CRN 2628-17-3

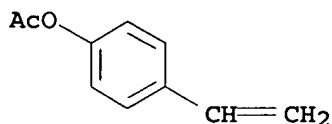
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-004
ICS C07C025-18; C07C381-12; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 123589-22-0 258871-96-4 279244-37-0
288620-13-3 359434-80-3
(acid decomposable polymer; pos.-working resist composition showing excellent sensitivity, resolution, and pattern profile)
IT 24424-99-5DP, Di-tert-butyl dicarbonate, reaction products with poly(p-hydroxystyrene) 24979-70-2DP, VP 8000, reaction products with di-tert-Bu bicarbonate 119359-85-2P 125325-82-8P 142952-62-3P 158593-28-3P 160309-96-6P, p-Acetoxystyrene-tert-butyl methacrylate copolymer 196709-91-8P 426832-91-9P 528853-12-5P
(preparation of acid decomposable polymer for pos.-working resist composition showing excellent sensitivity, resolution, and pattern profile)

L31 ANSWER 32 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:369197 HCAPLUS
DOCUMENT NUMBER: 138:393073
TITLE: Positive-working photoresist composition containing fluoro-substituted nitrogen compound
INVENTOR(S): Fujimori, Toru; Kanna, Shinichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003140349	A2	20030514	JP 2001-339439	2001 1105
PRIORITY APPLN. INFO.:				2001 1105

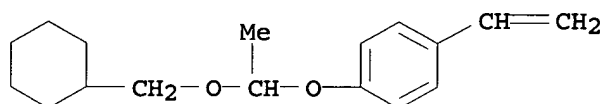
AB The composition contains (A) a polymer with F-substituted main chain or side chain and becomes soluble in alkaline developer by the decomposition caused by an acid, (B) a compound **generating acid** by actinic ray or radiation, and (C) a nitrogen compound containing ≥ 1 F atom. The composition gives clear pattern without development defect.
IT 430437-17-5P
(pos. photoresist containing F-containing

alkali-soluble polymer, acid generator, and
F-containing nitrogen compound)

RN 430437-17-5 HCAPLUS
CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-,
polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene
(9CI) (CA INDEX NAME)

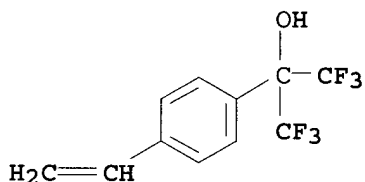
CM 1

CRN 430437-16-4
CMF C17 H24 O2



CM 2

CRN 2386-82-5
CMF C11 H8 F6 O



IC ICM G03F007-039
ICS C08F012-22; C08F014-26; C08F014-28; C08F016-26; C08F016-38;
C08F020-22; C08F020-28; C08F020-44; C08F032-04; G03F007-004;
H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST **pos photoresist** fluorine nitrogen compd;
alkali soluble polymer fluorine
IT **Positive photoresists**
(**pos. photoresist** containing F-containing
alkali-soluble polymer, **acid generator**, and
F-containing nitrogen compound)
IT 88-17-5 98-16-8 311-89-7 328-74-5 359-70-6 367-71-5
393-39-5 432-03-1 432-08-6 455-14-1 700-16-3 700-17-4
771-60-8 1513-65-1 2875-18-5 3048-01-9 3244-44-8
3796-24-5
(**pos. photoresist** containing F-containing
alkali-soluble polymer, **acid generator**, and
F-containing nitrogen compound)
IT 143643-34-9P 262617-13-0P 370866-13-0P 370866-15-2P
397302-29-3P 430436-67-2P 430436-68-3P 430436-70-7P
430436-72-9P 430436-74-1P 430436-76-3P 430436-78-5P
430436-79-6P 430436-81-0P 430436-82-1P 430436-84-3P
430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P

430436-90-1P 430436-92-3P 430436-94-5P 430436-98-9P
 430436-99-0P 430437-01-7P 430437-03-9P 430437-04-0P
 430437-05-1P 430437-09-5P 430437-11-9P 430437-12-0P
 430437-13-1P **430437-17-5P** 430437-18-6P 430437-19-7P
 430437-21-1P 430437-22-2P 430437-24-4P 430437-27-7P
 430437-29-9P 430437-33-5P 430437-36-8P 430437-37-9P
 430437-39-1P 430437-40-4P 431062-12-3P 431062-14-5P
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 524952-68-9P 524952-69-0P 524952-70-3P 524952-71-4P
 524952-72-5P 524952-73-6P 524952-74-7P

(**pos. photoresist** containing F-containing
 alkali-soluble polymer, **acid generator**, and
 F-containing nitrogen compound)

L31 ANSWER 33 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:241052 HCAPLUS

DOCUMENT NUMBER: 138:262693

TITLE: **Positive photoresist composition**

INVENTOR(S): Fujimori, Toru; Kawabe, Yasumasa

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 101 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1296190	A1	20030326	EP 2002-21204	2002 0918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2003167333	A2	20030613	JP 2002-563	2002 0107
US 2003134225	A1	20030717	US 2002-244070	2002 0916
PRIORITY APPLN. INFO.:				2001 0919
JP 2001-285180				A
JP 2002-563				A
				2002 0107

AB A **pos. resist composition** comprises the components of: (A) a compound capable of **generating** an **acid** upon irradiation with one of an actinic ray and a radiation; (B) a resin that is insol. or slightly soluble in alkalis, but becomes alkali-soluble under an action of an acid; (C) a basic compound; and (D) a compound comprising at least three hydroxyl groups or at least three substituted hydroxyl groups, and comprising at least one cyclic structure. The present invention relates to a

pos. resist composition used in a process of manufacture semiconductors and which far UV light with wavelengths ≤ 250 nm is used as an exposure light source or an electron beam is used as an irradiation source.

IT 288620-13-3P 288620-15-5P 289706-85-0P
372968-15-5P 430437-17-5P

(pos. photoresist composition containing)

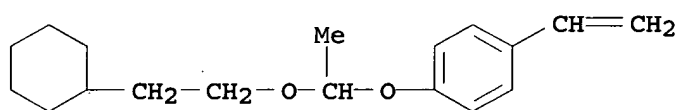
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

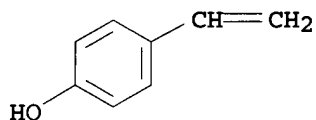
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



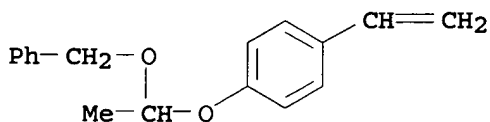
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

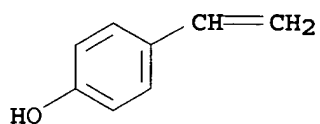
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



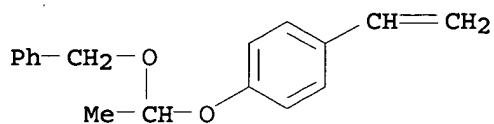
RN 289706-85-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

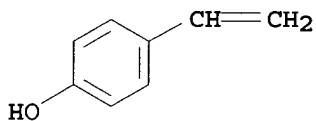
CMF C17 H18 O2



CM 2

CRN 2628-17-3

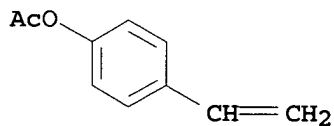
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



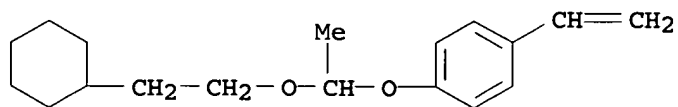
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

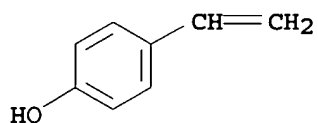
CMF C18 H26 O2



CM 2

CRN 2628-17-3

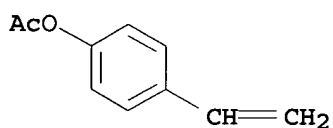
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



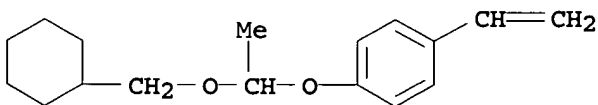
RN 430437-17-5 HCAPLUS

CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-,
polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene
(9CI) (CA INDEX NAME)

CM 1

CRN 430437-16-4

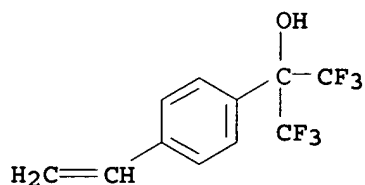
CMF C17 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



- IC ICM G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76
 ST **pos photoresist compn**
 IT **Positive photoresists**
 (pos. photoresist composition)
 IT Polysiloxanes, uses
 (surfactant; pos. photoresist compn containing)
 IT 24979-70-2DP, VP15000, reaction product with Et vinyl ether
 129674-22-2P 159296-87-4P 177034-73-0P 177034-75-2P
 199432-82-1P 200808-68-0P 228101-60-8P 250378-10-0P,
 Butyrolactone methacrylate-2-ethyl-2-adamantylmethacrylate
 copolymer 262617-13-0P 288303-55-9P **288620-13-3P**
288620-15-5P 289706-85-0P 325143-38-2P
 326591-96-2P 364736-22-1P **372968-15-5P** 391232-36-3P
 398140-38-0P 398140-43-7P 398140-45-9P 398140-47-1P
 398140-50-6P 398140-52-8P 398140-55-1P 398140-57-3P
 398140-59-5P 398140-64-2P 398140-69-7P 398140-73-3P
 398140-77-7P 398140-78-8P 398140-79-9P 398140-81-3P
 398140-86-8P 398140-87-9P 398140-88-0P 398140-89-1P
 398140-94-8P 398141-00-9P 398141-11-2P 398141-13-4P
 398141-14-5P 405509-18-4P 430436-66-1P 430436-67-2P
 430436-68-3P 430436-70-7P 430436-72-9P 430436-74-1P
 430436-76-3P 430436-78-5P 430436-79-6P 430436-81-0P
 430436-82-1P 430436-84-3P 430436-85-4P 430436-86-5P
 430436-87-6P 430436-89-8P 430436-90-1P 430436-91-2P
 430436-92-3P 430436-94-5P 430436-95-6P 430436-97-8P
 430436-98-9P 430436-99-0P 430437-09-5P 430437-11-9P
 430437-12-0P 430437-13-1P 430437-14-2P 430437-15-3P
430437-17-5P 430437-18-6P 430437-19-7P 430437-21-1P
 430437-22-2P 430437-24-4P 431062-12-3P 431062-14-5P
 431062-16-7P 431062-17-8P 503003-64-3P 503003-65-4P
 (pos. photoresist composition containing)
 IT 109-92-2DP, Ethyl vinyl ether, reaction product with
 polyhydroxystyrene
 (pos. photoresist composition containing)
 IT 57-55-6, Propylene glycol, uses 67-68-5, Dimethyl sulfoxide,
 uses 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate
 107-21-1, Ethylene glycol, uses 108-94-1, Cyclohexanone, uses
 109-86-4, Ethylene glycol monomethyl ether 110-43-0, 2-Heptanone
 110-80-5, Ethylene glycol monoethyl ether 123-86-4, Butyl
 ac-etate 127-19-5, N,N-Dimethylacetamide 763-69-9 872-50-4,
 N-Methylpyrrolidone, uses 1320-67-8, Propylene glycol monomethyl
 ether 52125-53-8, Propylene glycol monoethyl ether 84540-57-8,
 Propylene glycol monomethyl ether acetate
 (solvent; pos. photoresist composition containing)
 IT 137462-24-9, Megafac F176 216679-67-3, Megafac R08

(surfactant; pos. photoresist compn
containing)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 34 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:35187 HCAPLUS

DOCUMENT NUMBER: 138:98199

TITLE: Positive-working vacuum UV-sensitive
photoresist material composition containing
specific resin

INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

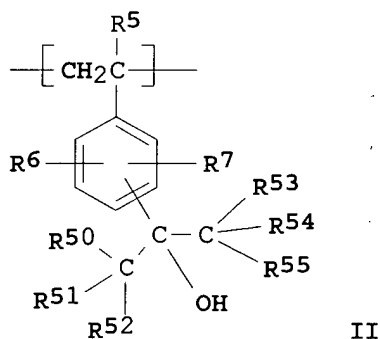
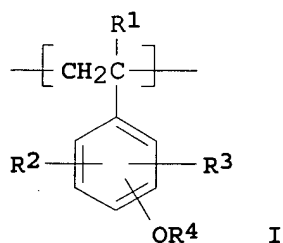
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003015298	A2	20030115	JP 2001-202241	2001 0703

PRIORITY APPLN. INFO.: JP 2001-202241

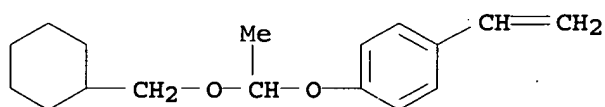
2001
0703

GI

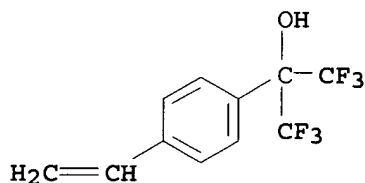


AB The title composition contains a resin increasing solubility toward an alkali solution by an **acid, a photoacid generator**, and a solvent, wherein the resin contains repeating unit I, II, and $[-CH(R17a)-C(R17)(COOR18)-]$ (R1,5,17a,17 = H, halo, cyano, alkyl; R2,3,6,7 = H, halo, cyano, hydroxyl, etc.; R50-55 = H, F, alkyl; R4 = $-C(R11)(R12)(R13)$, $-C(R14)(R15)(-O-R16)$; R18 = $-C(R18d)(R18e)(R18f)$, $-C(R18d)(R18e)-O-(R18g)$; R11-13 = alkyl, cycloalkyl, alkenyl, aralkyl, aryl; R14-15 = H, alkyl; R16 = alkyl, cycloalkyl, aralkyl, aryl). The composition provides the good transparency towards vacuum UV and provides the good solubility contrast towards developers.

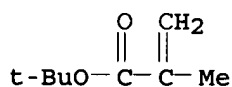
IT 485390-44-1P
 (resin; pos.-working vacuum UV-sensitive photoresist material
 composition containing specific resin)
 RN 485390-44-1 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene and
 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol
 (9CI) (CA INDEX NAME)
 CM 1
 CRN 430437-16-4
 CMF C17 H24 O2



CM 2
 CRN 2386-82-5
 CMF C11 H8 F6 O



CM 3
 CRN 585-07-9
 CMF C8 H14 O2



IC ICM G03F007-039
 ICS C08F212-14; C08F220-18; H01L021-027
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35
 ST UV photoresist compn resin
 IT **Positive photoresists**
 (vacuum UV-sensitive; pos.-working vacuum UV-sensitive
 photoresist material composition containing specific resin)
 IT 485390-41-8P 485390-42-9P 485390-43-0P **485390-44-1P**
 485390-45-2P 485390-46-3P 485390-47-4P 485390-49-6P

485390-51-0P 485390-52-1P 485390-54-3P 485390-55-4P
 485390-56-5P 485390-57-6P 485390-58-7P 485390-60-1P
 485390-62-3P 485390-63-4P 485390-64-5P 485390-65-6P
 485390-66-7P 485390-67-8P 485390-68-9P 485390-69-0P
 485390-70-3P 485390-72-5P 485390-73-6P 485390-76-9P

(resin; pos.-working vacuum UV-sensitive photoresist material
 composition containing specific resin)

L31 ANSWER 35 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:904531 HCAPLUS

DOCUMENT NUMBER: 137:391086

TITLE: Electron beam or x-ray sensitive
positive-working resist

composition containing specific
 acid-stable low molecular compound

INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi;
 Shirakawa, Hiroshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002341538	A2	20021127	JP 2001-142185	2001 0511
TW 562999	B	20031121	TW 2002-91109156	2002 0502
PRIORITY APPLN. INFO.:			JP 2001-138738	A 2001 0509
			JP 2001-141626	A 2001 0511
			JP 2001-142185	A 2001 0511

AB The title composition contains an electron beam or x-ray sensitive
acid-generator, a resin increasing the solubility
 towards an alkali developer by reacting with the acid, a low-mol.
 acid-stable compound, and a solvent, wherein the acid stable compound
 has a residual group of a compound with smaller ionization potential
 (Ip) than p-ethylphenol. The resist shows the high sensitivity
 and high resolution and provides the good PED stability.

IT **288620-15-5P**
 (resin; electron beam or x-ray sensitive **pos.-working**
resist composition)

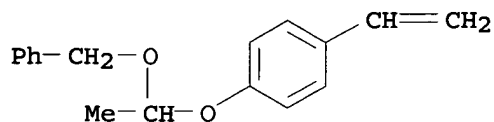
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-
 (phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

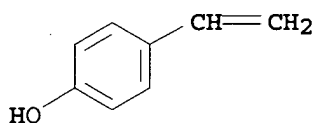
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)ST electron beam x ray **pos resist compn**

IT Electron beam resists

X-ray resists

(electron beam or x-ray sensitive **pos.-working resist composition**)

IT 75-59-2, Tetramethylammonium hydroxide 945-51-7, Diphenyl sulfoxide 2049-95-8, tert-Amyl benzene 3744-08-9, Triphenylsulfonium iodide 7664-93-9, Sulfuric acid, reactions 7758-05-6, Potassium iodate 12027-06-4, Ammonium iodide 26120-85-4, Pentachlorobenzenesulfonyl chloride 249300-51-4, Iodonium, bis[4-(1,1-dimethylpropyl)phenyl]- (acid-generator; electron beam or x-ray sensitive **pos.-working resist compn**.)

IT 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate (acid-generator; electron beam or x-ray sensitive **pos.-working resist compn**.)

IT 93-03-8P 773-99-9P, 1-Naphthaleneethanol 776-99-8P 1136-81-8P 1517-72-2P 1929-87-9P 2876-78-0P 3840-31-1P 4780-79-4P, 1-Naphthalenemethanol 5653-67-8P 19351-91-8P 24463-15-8P, 1-Pyrenemethanol 53560-25-1P 91909-27-2P 92324-44-2P 263237-56-5P (acid-stable low-mol. weight compound; electron beam or x-ray sensitive **pos.-working resist compn**.)

IT 144317-44-2 153698-46-5 197447-16-8 258341-98-9 279244-39-2 389859-76-1 475642-50-3 476274-42-7 (acids-generator; electron beam or x-ray sensitive **pos.-working resist compn**.)

IT 270563-93-4
 (electron beam or x-ray sensitive **pos.**-working
resist composition)

IT 24979-70-2P, p-Hydroxystyrene homopolymer 24979-74-6P,
 p-Hydroxystyrene-styrene copolymer 129674-22-2P,
 p-Hydroxystyrene-p-(tert-Butoxycarbonyloxy)styrene copolymer
 159296-87-4P, p-Hydroxystyrene-tert-butyl acrylate copolymer
 177034-67-2P, p-Hydroxystyrene-p-(1-ethoxyethoxy)styrene-styrene
 copolymer **288620-15-5P** 297742-32-6P,
 p-Hydroxystyrene-4-(1-phenoxyethoxy)styrene-p-acetoxystyrene
 copolymer 325143-38-2P, p-Hydroxystyrene-p-(1-
 ethoxyethoxy)styrene-tert-butyl acrylate copolymer
 (resin; electron beam or x-ray sensitive **pos.**-working
resist composition)

L31 ANSWER 36 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:886513 HCAPLUS

DOCUMENT NUMBER: 137:391068

TITLE: **Photoresist compositions**
 with high resolution, good pattern shape, and
 reduced edge roughness for electron beam or
 x-ray photolithography in semiconductor device
 fabrication

INVENTOR(S): Yasunami, Shoichiro; Takahashi, Omote

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002333714	A2	20021122	JP 2001-139097	2001 0509

PRIORITY APPLN. INFO.: JP 2001-139097

2001
0509

OTHER SOURCE(S): MARPAT 137:391068

AB The compns. comprise (A) **photoacid generators**,
 (B) N-containing compds. generating carboxyl groups in a mol. by
 acids, and (C) alkali-insol. resins that increase their alkali
 solubility by acids for **pos. photoresists**.
 Alternatively, the compns. contain A, B, (D) alkali-soluble resins,
 and (E) crosslinkers that react with D by acids for neg.
 photoresists.

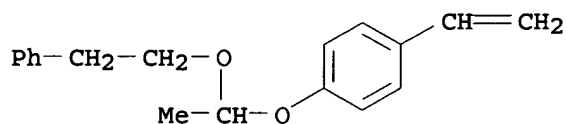
IT **279244-37-0P 288620-13-3P**
 (**pos. resist** containing; **photoresist**
compns. with high resolution and good pattern shape for
 electron beam or x-ray photolithog.)

RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-
 phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

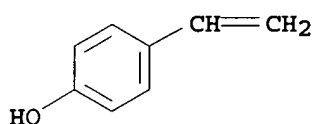
CM 1

CRN 246157-37-9
CMF C18 H20 O2



CM 2

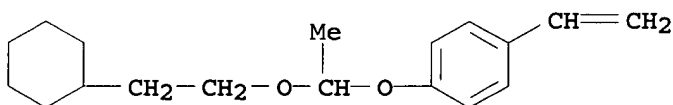
CRN 2628-17-3
CMF C8 H8 O



RN 288620-13-3 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

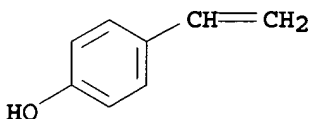
CM 1

CRN 288620-12-2
CMF C18 H26 O2



CM 2

CRN 2628-17-3
CMF C8 H8 O



IC ICM G03F007-039
ICS G03F007-004; G03F007-038; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 76
IT X-ray resists
(**photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 161679-94-3P 185502-14-1P 197087-74-4P 475673-37-1P
 475673-38-2P
 (crosslinker, neg. resist containing; **photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 3089-11-0 32449-09-5
 (crosslinker, neg. resist containing; **photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 24979-69-9P 24979-70-2P 24979-73-5P 24979-74-6P
 173786-80-6DP, 4-Acetoxystyrene-4-methoxystyrene copolymer, hydrolyzed 321164-59-4P 345212-59-1P 396098-38-7P
 (neg. resist containing; **photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 162846-57-3P 212555-24-3P, 4-Cyclohexylphenoxyethyl vinyl ether
 (**photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 64113-91-3P 85451-11-2P 88722-74-1P 94391-95-4P
 113131-45-6P 147202-35-5P 475673-33-7P 475673-34-8P
 475673-35-9P 475673-36-0P
 (**photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 50-00-0, Formaldehyde, reactions 110-75-8, 2-Chloroethyl vinyl ether 609-36-9, Proline 1131-60-8, p-Cyclohexylphenol 110726-28-8, Trisp PA
 (**photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

IT 24979-70-2DP, esters 24979-70-2DP, VP 8000, reaction products with cyclohexylphenoxyethyl vinyl ether 158593-28-3P
 160309-96-6DP, p-Acetoxystyrene-tert-butyl methacrylate copolymer, hydrolyzed 212555-24-3DP, 4-Cyclohexylphenoxyethyl vinyl ether, reaction products with polyhydroxystyrene 279244-37-0P
 288620-13-3P 289706-80-5P
 (**pos. resist containing; photoresist compns.** with high resolution and good pattern shape for electron beam or x-ray photolithog.)

L31 ANSWER 37 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:734053 HCAPLUS

DOCUMENT NUMBER: 137:270514

TITLE: **Positive resist**

composition containing resin and photoacid generator

INVENTOR(S): Aoi, Toshiaki; Mizutani, Kazuyoshi; Kanna, Shinichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 51 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1243968	A2	20020925	EP 2002-6528	2002 0319

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2002351081 A2 20021204 JP 2002-74337

2002
 0318

US 2002168584 A1 20021114 US 2002-99981

2002
 0319

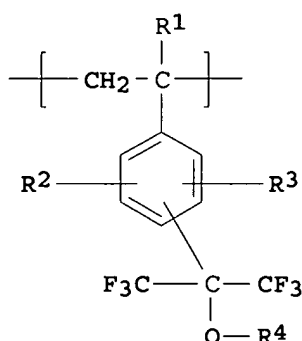
PRIORITY APPLN. INFO.:

JP 2001-79184

A

2001
 0319

GI



I

AB The present invention relates to a **pos. resist composition** used in micro-lithog processes for the manufacture of VLSI's and micro-tips with large capacities. The present invention relates to a **pos. resist composition** capable of forming fine patterns with use of a vacuum UV ray having a wavelength of < 160 nm. A **pos. resist composition** comprises: (A) a resin containing a specified repeating unit I (R1 = H, halogen atom, cyano group, alkyl; R2,3 = H, hydroxy group, halogen atom, cyano, alkoxy, acyl, alkyl, cycloalkyl, alkenyl, aralkyl, aryl; R4 = H, alkyl, perfluoroalkyl, cycloalkyl, acyl, alkoxyacrbonyl, etc.), which is capable of decomposing by the action of an acid to increase the solubility in an alkali developer; and (B) a compound capable of **generating** an acid upon irradiation with one of an actinic ray and a radiation.

IT 430437-07-3P

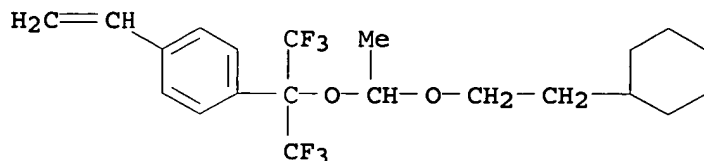
(resin and acid generator for pos
 . resist composition)

RN 430437-07-3 HCAPLUS

CN 2-Propenenitrile, 2-methyl-, polymer with 1-[1-[1-(2-cyclohexylethoxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-4-ethenylbenzene and 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

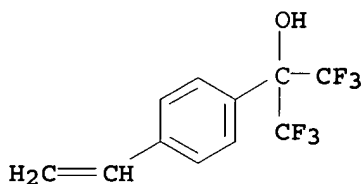
CM 1

CRN 430437-06-2
CMF C21 H26 F6 O2



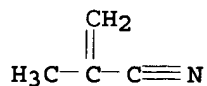
CM 2

CRN 2386-82-5
CMF C11 H8 F6 O



CM 3

CRN 126-98-7
CMF C4 H5 N



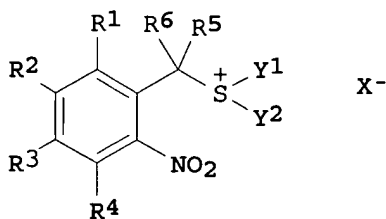
- IC ICM G03F007-004
ICS G03F007-039
- CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38
- IT Polysiloxanes, uses
(KR 341, surfactant; resin and acid generator for pos. resist composition)
- IT **Positive photoresists**
(resin and acid generator for pos. resist composition)
- IT Photolithography
(vacuum UV; resin and acid generator for pos. resist composition for)
- IT 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate
324771-13-3
(photoacid generator; resin and acid generator for pos. resist composition)

IT 430437-07-3P 462109-80-4DP, reaction products with Et
vinyl ether 462109-81-5P 462109-83-7P 462109-85-9P
462109-87-1P 462109-89-3P 462109-91-7P 462109-92-8P
462109-94-0P 462109-95-1P 462109-97-3P
(resin and acid generator for pos
. resist composition)
IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9,
Megafac f176 216679-67-3, Megafac R08
(surfactant; resin and acid generator for
pos. resist composition)

L31 ANSWER 38 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:711200 HCAPLUS
DOCUMENT NUMBER: 137:255340
TITLE: Positive-working chemically amplification type
radiation-sensitive resist composition with
specified acid generator
INVENTOR(S): Kodama, Kunihiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002268209	A2	20020918	JP 2001-69053	2001 0312
PRIORITY APPLN. INFO.:			JP 2001-69053	2001 0312

OTHER SOURCE(S): MARPAT 137:255340
GI



AB The invention relates to a pos.-working chemical amplification type radiation-sensitive resist composition which comprises (A) a radiation-induced acid generator represented by I [R1-4 = H, alkyl, halogenated alkyl, alkoxy, nitro, alkoxy carbonyl, aryl, cyano; R5, R6 = H, alkyl, cyano, aryl; Y1, Y2 = alkyl, aryl, aralkyl; X- = non-nucleophilic anion], (B) an acid-decomposable, alkaline developable resin, (C) an acid-decomposable, alkaline developable resin with a mol. weight of ≤ 3000 , (D) a water-insol., alkaline-soluble resin, (E) an organic

base compound, and (F) fluoro- and/or silicone-surfactants. The resist composition shows higher resolution and higher sensitivity to deep-UV and electron beams.

IT 288620-13-3 288620-15-5 289706-85-0
325143-37-1 359434-80-3 372968-15-5

(in pos.-working chemical amplification type radiation-sensitive resist composition showing higher sensitivity and higher resolution to deep-UV and electron beam)

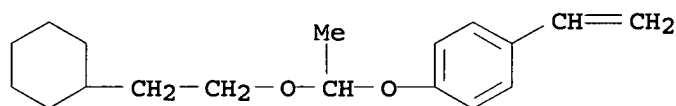
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

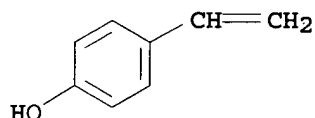
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



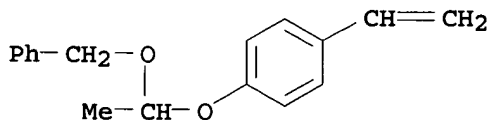
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

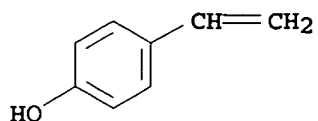
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



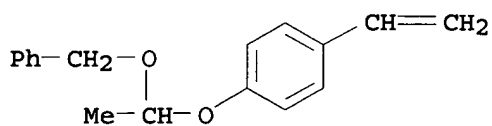
RN 289706-85-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

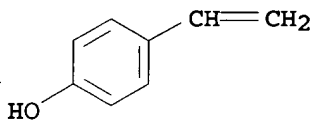
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CM 2

CRN 2628-17-3

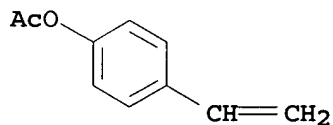
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



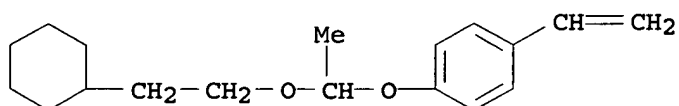
RN 325143-37-1 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

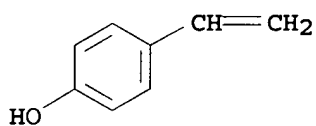
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CM 2

CRN 2628-17-3

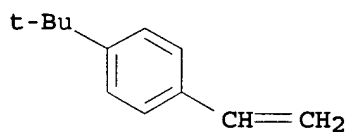
CMF C8 H8 O



CM 3

CRN 1746-23-2

CMF C12 H16



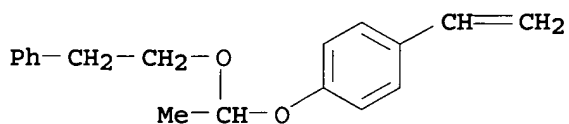
RN 359434-80-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and
1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 246157-37-9

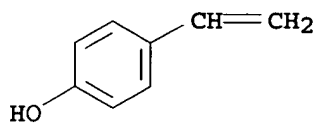
CMF C18 H20 O2



CM 2

CRN 2628-17-3

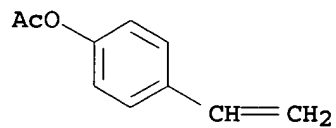
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



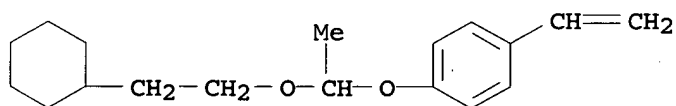
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX
NAME)

CM 1

CRN 288620-12-2

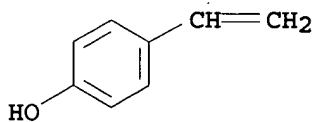
CMF C18 H26 O2



CM 2

CRN 2628-17-3

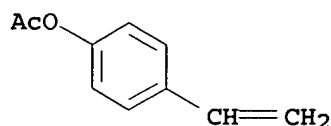
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-004
 ICS G03F007-004; C08K005-00; C08K005-42; C08L101-02; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38, 76
 IT 19600-49-8 24979-69-9, Poly(m-Hydroxystyrene) 24979-70-2,
 p-Hydroxystyrene homopolymer 24979-74-6, p-Hydroxystyrene-
 styrene copolymer 125325-82-8 129674-22-2 153698-54-5
 153698-63-6 153698-65-8 158593-28-3 159296-87-4
 200808-68-0 **288620-13-3 288620-15-5**
289706-85-0 325143-37-1 359434-70-1
 359434-73-4 **359434-80-3 372968-15-5**
 (in pos.-working chemical amplification type radiation-sensitive
 resist composition showing higher sensitivity and higher resolution to
 deep-UV and electron beam)

L31 ANSWER 39 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:609717 HCAPLUS

DOCUMENT NUMBER: 137:177107

TITLE: Positive-working chemically amplified
photoresist composition for
 forming contact holes of semiconductor device
 INVENTOR(S): Tan, Shiro; Fujimori, Toru; Yamanaka, Tsukasa
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002229210	A2	20020814	JP 2001-29753	2001 0206
TW 567405	B	20031221	TW 2001-90130618	2001 1211
PRIORITY APPLN. INFO.:			JP 2001-29753	A 2001 0206

AB The title composition consists of: a resin, which contains resin A and
 resin B, and increases the solubility in an alkali developer reacting
 with an acid, and a **photoacid generator**,
 wherein the glass transition temperature of resin A is higher than that
 of resin B before reacting an acid and smaller than that of resin
 B after reacting an acid. The composition provides the reduction of
 pattern size only under flow-baking temperature
 IT 325143-37-1DP, hydrolyzed 372968-15-5DP,

hydrolyzed 446263-04-3DP, hydrolyzed
(pos.-working chemical amplified photoresist
composition for forming contact holes of semiconductor
device)

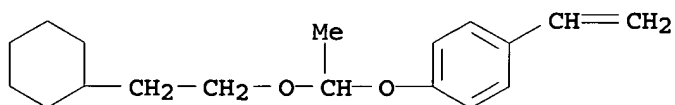
RN 325143-37-1 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI)
(CA INDEX NAME)

CM 1

CRN 288620-12-2

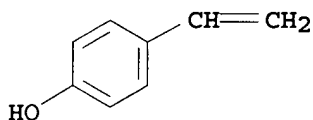
CMF C18 H26 O2



CM 2

CRN 2628-17-3

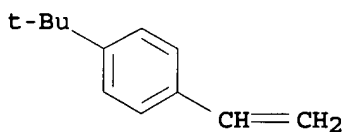
CMF C8 H8 O



CM 3

CRN 1746-23-2

CMF C12 H16



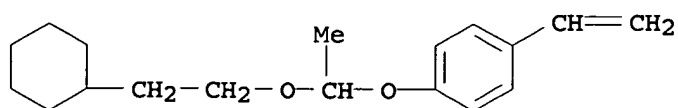
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX
NAME)

CM 1

CRN 288620-12-2

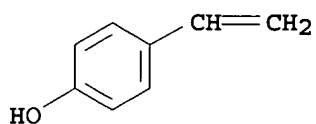
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CM 2

CRN 2628-17-3

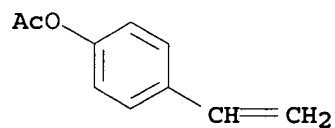
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



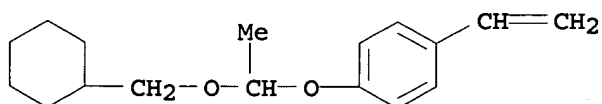
RN 446263-04-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 430437-16-4

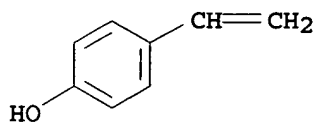
CMF C17 H24 O2



CM 2

CRN 2628-17-3

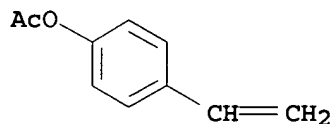
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-039
 ICS C08K005-00; C08L025-00; G03F007-40; H01L021-027
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76
 ST **pos** working amplified **photoresist**
compn contact hole semiconductor device
 IT Contact holes
Positive photoresists
 Semiconductor device fabrication
 (**pos.**-working chemical amplified **photoresist**
composition for forming contact holes of semiconductor
 device)
 IT 125325-82-8DP, hydrolyzed 129674-22-2DP, hydrolyzed
 158593-28-3DP, hydrolyzed 177034-73-0DP, hydrolyzed
 186769-12-0DP, hydrolyzed 199432-82-1DP, hydrolyzed
 200808-68-0DP, hydrolyzed **325143-37-1DP**, hydrolyzed
372968-15-5DP, hydrolyzed 438535-78-5DP, hydrolyzed
 446263-02-1DP, hydrolyzed 446263-03-2DP, hydrolyzed
446263-04-3DP, hydrolyzed
 (**pos.**-working chemical amplified **photoresist**
composition for forming contact holes of semiconductor
 device)

L31 ANSWER 40 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:518038 HCAPLUS

DOCUMENT NUMBER: 137:101413

TITLE: Chemically amplified positive resist
 compositions for thermal flow and method for
 forming high-resolution patterns using them

INVENTOR(S): Yamanaka, Tsukasa; Nishiyama, Fumiyuki

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002196497	A2	20020712	JP 2001-85283	2001 0323
TW 539924	B	20030701	TW 2001-90125209	2001 1012
PRIORITY APPLN. INFO.:			JP 2000-320810	A
			JP 2001-85283	A
				2001 0323

OTHER SOURCE(S): MARPAT 137:101413

AB The compns. contain hydroxystyrene polymers [CH(C₆H₄OH-p)CH₂]1-a[CH(C₆H₄BL1-p)CH₂]a (A; BL1 = **acid-decomposable** group; a = 0.1-0.5) with Mw 5000-50,000 and dispersibility 1.0-1.3, hydroxystyrene polymers [CH(C₆H₄OH-p)CH₂]1-b-c[CH(C₆H₄BL2-p)CH₂]b[CH(C₆H₄L1-p)CH₂]c (BL2 = **acid-decomposable** group; L1 = H, acid-nondecomposable group; b = 0.1-0.5; 0.0 < c ≤ 0.3) with Mw 5000-50,000, and photoacid generators. The method contains forming a layer of the composition on a semiconductor substrate, forming a rather large contact hole pattern by radiation exposure (≤300 nm), and heating the substrate at 120-160° so as to form a contact hole pattern with a desired size.

IT 288620-13-3 325143-37-1 372968-15-5
(chemical amplified pos. resist compns. containing hydroxystyrene polymers for semiconductor contact hole formation by thermal flow process)

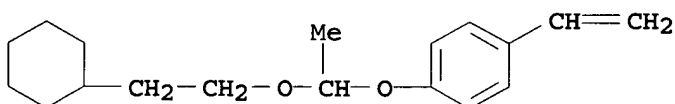
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

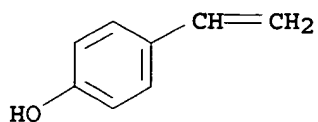
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



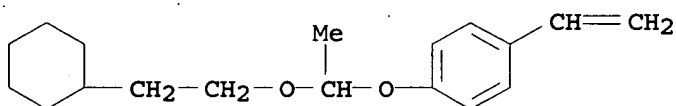
RN 325143-37-1 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2 /

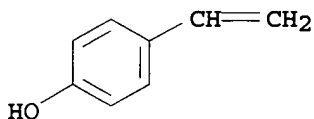
CMF C18 H26 O2



CM 2

CRN 2628-17-3

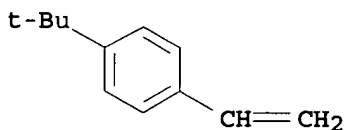
CMF C8 H8 O



CM 3

CRN 1746-23-2

CMF C12 H16



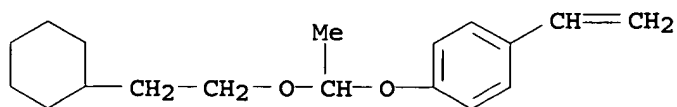
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

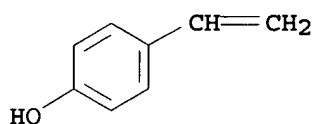
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CM 2

CRN 2628-17-3

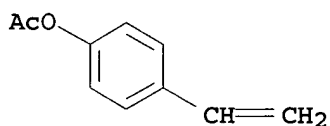
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-039

ICS C08K005-00; C08K005-09; C08K005-16; C08K005-36; C08K005-41;
C08L025-18; H01L021-027CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76IT 142952-62-3 158593-28-3 287381-52-6 288620-13-3
325143-37-1 372968-15-5(chemical amplified pos. resist compns. containing hydroxystyrene
polymers for semiconductor contact hole formation by thermal
flow process)

L31 ANSWER 41 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:447174 HCAPLUS

DOCUMENT NUMBER: 137:39321

TITLE: **Positively working resist**
composition containing fluoropolymer
for high resolution

INVENTOR(S): Adegawa, Yutaka; Tan, Shiro; Sorori, Tadahiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 124 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002169295	A2	20020614	JP 2001-272097	2001 0907
PRIORITY APPLN. INFO.:			JP 2000-276896	A 2000 0912
			JP 2000-283963	A 2000 0919

OTHER SOURCE(S): MARPAT 137:39321

AB The **resist composition** contains (A) (a1) polymers with acid-sensitive alkali solubility, (a2) alkali-soluble polymers and low-mol-weight compds. with acid-sensitive alkali solubility (dissoln. inhibitors), or (a3) polymers with acid-sensitive alkali solubility and dissoln. inhibitors, (B) **acid generator** sensitive to actinic ray or radiation, and (C) polymers having fluoroaliph. groups in side chains, where the groups are obtained from fluoroaliph. compds. manufactured by telomerization or oligomerization. Also claimed is a chemical amplified **pos. resist composition** sensitive to electron beam or x-ray containing (A) **acid generator** and (B) alkali-soluble polymers with weight-average mol. weight >3000 and ≤300,000 which satisfy the following conditions: (1) the polymers contain ≥1 of repeating unit from monomers containing C6-20 aromatic ring and ethylenically unsatd. group and (2) the aromatic ring has controlled number of π electrons and the substituents of the aromatic ring have controlled number of unshared electron pairs. The chemical amplified **resist composition** has high resolution, high line-width reproducibility, and good pattern profiles.

IT 436812-29-2 436812-34-9 436812-35-0
(alkali-soluble polymer; chemical amplified **pos. resist composition** sensitive to electron beam or x-ray with high resolution)

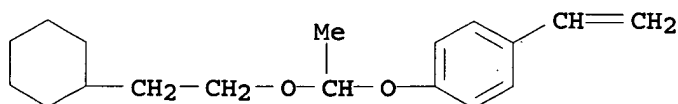
RN 436812-29-2 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-ethenyl-naphthalene (9CI) (CA INDEX NAME)

CM 1

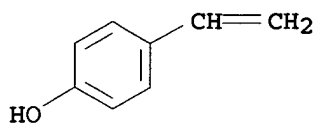
CRN 288620-12-2

CMF C18 H26 O2



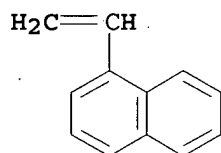
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

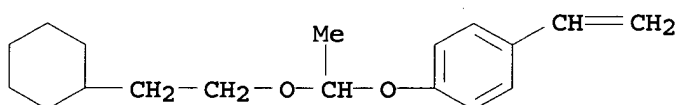
CRN 826-74-4
CMF C12 H10



RN 436812-34-9 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 9-ethenylanthracene (9CI) (CA INDEX NAME)

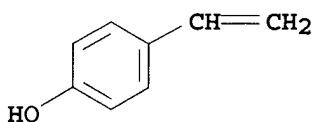
CM 1

CRN 288620-12-2
CMF C18 H26 O2



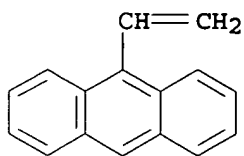
CM 2

CRN 2628-17-3
CMF C8 H8 O



CM 3

CRN 2444-68-0
CMF C16 H12



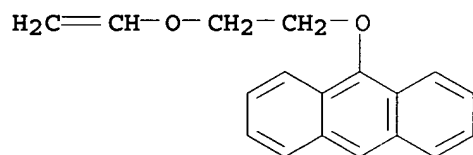
RN 436812-35-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 9-[2-(ethenyloxy)ethoxy]anthracene (9CI) (CA INDEX NAME)

CM 1

CRN 345212-81-9

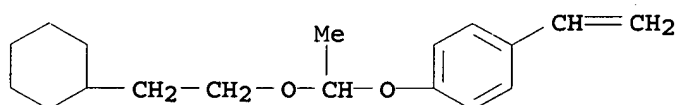
CMF C18 H16 O2



CM 2

CRN 288620-12-2

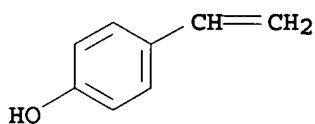
CMF C18 H26 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



IT 289706-85-0P, p-Acetoxystyrene-p-(1-benzyloxyethoxy)styrene-p-hydroxystyrene copolymer (pos. working resist composition containing fluoropolymer for high resolution)

RN 289706-85-0 HCAPLUS

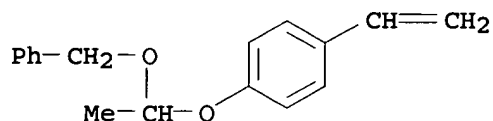
CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and

1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

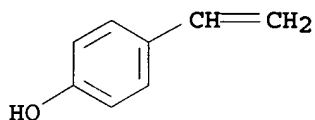
CMF C17 H18 O2



CM 2

CRN 2628-17-3

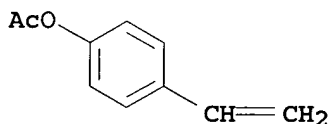
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



- IC ICM G03F007-039
ICS C08F212-02; G03F007-004; G03F007-033; H01L021-027
- CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
- ST actinic ray radiation sensitive **pos resist**
fluoropolymer resoln; electron beam x ray sensitive **pos resist** resoln
- IT **Photoresists**
(**pos. working resist composition** containing fluoropolymer for high resolution)
- IT Fluoropolymers, uses
(**pos. working resist composition** containing fluoropolymer for high resolution)
- IT Resists
(radiation-sensitive; chemical amplified **pos. resist composition** sensitive to electron beam or x-ray with high resolution)

- IT 153698-46-5P, Triphenylsulfonium pentafluorophenylsulfonate
258341-98-9P
(acid generator; chemical amplified
pos. resist composition sensitive to
electron beam or x-ray with high resolution)
- IT 141714-82-1
(acid generator; chemical amplified
pos. resist composition sensitive to
electron beam or x-ray with high resolution)
- IT 345212-25-1P
(alkali-soluble polymer; chemical amplified pos.
resist composition sensitive to electron beam or
x-ray with high resolution)
- IT 321164-59-4 345212-27-3 345212-28-4 345212-30-8
345212-54-6 345212-55-7 345212-56-8 345212-60-4
345212-61-5 345212-63-7 345212-64-8 345212-67-1
345212-69-3 345212-71-7 345212-73-9 345212-74-0
345212-75-1 345212-77-3 345212-78-4 345212-80-8
345212-82-0 345212-85-3 345212-86-4 345212-87-5
345212-89-7 345212-91-1 345212-92-2 345212-93-3
345212-95-5 345212-97-7 345212-99-9 425422-26-0
425422-30-6 425422-38-4 425422-40-8 436812-25-8
436812-26-9 436812-27-0 436812-28-1 436812-29-2
436812-31-6 436812-32-7 436812-33-8 436812-34-9
436812-35-0 436812-36-1 436812-37-2 436812-38-3
436812-39-4 436812-40-7 436812-41-8 436812-42-9
436812-43-0
(alkali-soluble polymer; chemical amplified pos.
resist composition sensitive to electron beam or
x-ray with high resolution)
- IT 3744-08-9P, Triphenylsulfonium iodide 270564-02-8P,
Tetramethylammonium pentafluorobenzenesulfonate
(chemical amplified pos. resist compn
. sensitive to electron beam or x-ray with high resolution)
- IT 75-59-2, Tetramethylammonium hydroxide 832-53-1,
Pentafluorobenzenesulfonyl chloride 945-51-7, Diphenyl sulfoxide
2049-95-8, tert-Amylbenzene 7758-05-6, Potassium iodate
(chemical amplified pos. resist compn
. sensitive to electron beam or x-ray with high resolution)
- IT 153698-63-6P 153698-69-2P 196709-88-3P
(dissoln. inhibitor; pos. working resist
composition containing fluoropolymer for high resolution)
- IT 24979-70-2P, p-Hydroxystyrene homopolymer 24979-74-6P,
p-Hydroxystyrene-styrene copolymer 129674-22-2P,
p-tert-Butoxycarbonyloxystyrene-p-hydroxystyrene copolymer
159296-87-4P, tert-Butyl acrylate-p-hydroxystyrene copolymer
177034-67-2P, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene-styrene
copolymer 249562-17-2P, Maleic anhydride-2-methyl-2-adamantyl
acrylate-norbornene copolymer 289706-85-0P,
p-Acetoxystyrene-p-(1-benzyloxyethoxy)styrene-p-hydroxystyrene
copolymer 325143-38-2P, tert-Butyl acrylate-p-(1-
ethoxyethoxy)styrene-p-hydroxystyrene copolymer 436812-24-7P,
p-Acetoxystyrene-p-hydroxystyrene-p-(1-phenethylethoxy)styrene
copolymer
(pos. working resist composition
containing fluoropolymer for high resolution)
- IT 79-10-7D, Acrylic acid, fluoroalkyl esters, polymers with
(meth)acrylates 79-41-4D, Methacrylic acid, fluoroalkyl esters,
polymers with (meth)acrylates 80-62-6D, Methyl methacrylate,
polymers with fluoroalkyl (meth)acrylates, 2-hydroxyethyl

methacrylate, and iso-Bu methacrylate 97-86-9D, polymers with fluoroalkyl (meth)acrylates, Me methacrylate, and 2-hydroxyethyl methacrylate 101-68-8D, polymers with fluoroalkyl (meth)acrylates, isocyanates, and diols 110-63-4D, 1,4-Butanediol, polymers with fluoroalkyl (meth)acrylates, isocyanates, and diols 142-90-5D, polymers with fluoroalkyl (meth)acrylates and 2-Propenamide, N-[4-[[[(2,6-dimethylphenyl)amino]sulfonyl]phenyl]- 822-06-0D, 1,6-Hexamethylene diisocyanate, polymers with fluoroalkyl (meth)acrylates, isocyanates, and diols 868-77-9D, 2-Hydroxyethyl methacrylate, polymers with fluoroalkyl (meth)acrylates, Me methacrylate, and iso-Bu methacrylate 7398-56-3D, polymers with fluoroalkyl (meth)acrylates, Me methacrylate, and 2-hydroxyethyl acrylate 10097-02-6D, polymers with fluoroalkyl (meth)acrylates, isocyanates, and diols 26915-72-0D, polymers with fluoroalkyl (meth)acrylates and polypropylene glycol methacrylate Me ether 31958-47-1D, polymers with fluoroalkyl poly[(2-hydroxy-5-methyl-m-phenylene)methylene] derivs. 32171-39-4D, polymers with fluoroalkyl meth(acrylates) 83844-54-6D, polymers with fluoroalkyl (meth)acrylates and polyethylene glycol methacrylate Me ether 84836-10-2D, fluoroalkyl derivs., polymer with (meth)acrylates, isocyanates, and diols 114654-22-7D, polymers with fluoroalkyl (meth)acrylates 206281-34-7, Megafac F 470 232945-66-3, Megafac F 178K 251098-95-0D, polymers with fluoroalkyl (meth)acrylates and dodecyl methacrylate 299190-83-3, Megafac F 472 402944-02-9, Megafac F 473 402944-04-1, Megafac F 475 402944-08-5, Megafac F 476

(pos. working resist composition

containing fluoropolymer for high resolution)

IT 110-87-2, 3,4-Dihydro-2H-pyran 5292-43-3, tert-Butyl bromoacetate 76937-83-2, $\alpha,\alpha,\alpha',\alpha',\text{.alph}$ a.'', α'' -Hexakis(4-hydroxyphenyl)-1,3,5-triethylbenzene 110726-28-8, 1-[α -Methyl- α -(4'-hydroxyphenyl)ethyl]-4-[α',α' -bis(4''-(hydroxyphenyl))ethyl]benzene 148452-55-5, 1,3,3,5-Tetrakis-(4-hydroxyphenyl)pentane 153698-47-6, Cumyl bromoacetate

(pos. working resist composition

containing fluoropolymer for high resolution)

L31 ANSWER 42 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:427822 HCAPLUS

DOCUMENT NUMBER: 137:13263

TITLE: Positive-working electron beam or x-ray resist compositions using specific combination of solvents

INVENTOR(S): Uenishi, Kazuya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 62 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002162733	A2	20020607	JP 2000-357804	2000

PRIORITY APPLN. INFO.:

JP 2000-357804

1124

2000

1124

AB The **resist compns.**, which show good pattern profile, high sensitivity and resolution, and good stabilities to post coating delay and post exposure delay, contain (a) compds. which **generate acids** upon irradiation with radiation, (b) cationically polymerizable compds., and (c) solvents comprising ≥ 1 selected from (A) chain ketones and ≥ 1 selected from (B) alkyl lactates, alkyl alkoxypropionates, acetate esters, propylene glycol monoalkyl ethers and/or (C) γ -butyrolactone, ethylene carbonate, and propylene carbonate. The compns. may addnl. contain (d) organic basic compds. and (e) F-containing surfactants and/or silicone surfactants.

IT **288620-13-3DP**, reaction products with poly(p-hydroxystyrene) (binder; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)

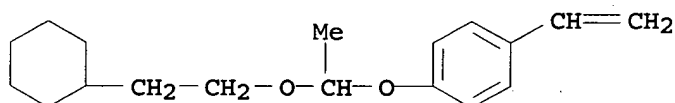
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

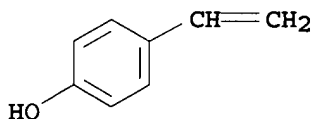
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-004

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos x ray resist solvent combination; electron beam pos resist solvent combination; ketone lactate ester solvent pos x ray resist; cationically polymerizable monomer pos x ray resist; cyclohexyl vinyl ether pos electron beam

- resist**
- IT Ketones, uses
(chain; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT Surfactants
(fluorine-containing or siloxanes; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT Solvents
(pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT Electron beam **resists**
X-ray **resists**
(pos.-working; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT Polysiloxanes, uses
(surfactants; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT 109-92-2DP, Ethyl vinyl ether, reaction products with poly(p-hydroxystyrene) 24979-70-2DP, VP 8000, reaction products with vinyl ethers 31814-77-4DP, 2-Phenylethyl vinyl ether, reaction products with poly(p-hydroxystyrene) 95418-59-0DP, p-tert-Butoxystyrene-styrene copolymer, hydrolyzed 212555-24-3DP, 4-Cyclohexylphenoxyethyl vinyl ether, reaction products with poly(p-hydroxystyrene) 288620-13-3DP, reaction products with poly(p-hydroxystyrene)
(binder; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT 24979-70-2, VP 8000 142952-62-3, p-(tert-Butoxycarbonylmethoxy)styrene-p-hydroxystyrene copolymer 147625-42-1, Poly(p-hydroxystyrene) tert-butyl carbonate 160309-96-6D, p-Acetoxystyrene-tert-butyl methacrylate copolymer, hydrolyzed 177984-03-1 422508-76-7 433289-14-6
(binder; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT 110-87-2, 3,4-Dihydro-2H-pyran 5292-43-3, tert-Butyl bromoacetate 76937-83-2, $\alpha, \alpha, \alpha', \alpha', .\text{alph}$ a. ' ', α' ', -Hexakis(4-hydroxyphenyl)-1,3,5-triethylbenzene 110726-28-8, 1-[α -Methyl- α -(4'-hydroxyphenyl)ethyl]-4-[α', α' -bis(4''-hydroxyphenyl)ethyl]benzene 148452-55-5, 1,3,3,5-Tetrakis(4-hydroxyphenyl)pentane 153698-47-6, Cumyl bromoacetate
(dissoln. inhibitor from; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT 153698-63-6P 153698-69-2P 196709-88-3P 433289-15-7P
(dissoln. inhibitor; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)
- IT 65-85-0, Benzoic acid, reactions
(esterification with chloroethyl vinyl ether; pos.-working electron beam or x-ray **resist compns.** containing cationically-polymerizable monomers and ≥ 2 solvents)

- IT 1131-60-8, p-Cyclohexylphenol
(in binder polymer preparation; apos.-working electron beam or x-ray
resist compns. containing cationically-
polymerizable monomers and ≥ 2 solvents)
- IT 110-75-8, 2-Chloroethyl vinyl ether
(in binder polymer preparation; pos.-working electron beam or x-ray
resist compns. containing cationically-
polymerizable monomers and ≥ 2 solvents)
- IT 3744-08-9P, Triphenylsulfonium iodide
(in preparation of **photoacid generator**;
pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)
- IT 71-43-2, Benzene, reactions 75-59-2, Tetramethylammonium
hydroxide 832-53-1, Pentafluorobenzenesulfonyl chloride
945-51-7, Diphenylsulfoxide 2049-95-8, tert-Amylbenzene
4270-70-6, Triphenylsulfonium chloride
(in preparation of **photoacid generator**;
pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)
- IT 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate
(**photoacid generator**; pos.-working electron
beam or x-ray **resist compns.** containing
cationically-polymerizable monomers and ≥ 2 solvents)
- IT 153698-46-5P, Triphenylsulfonium pentafluorobenzenesulfonate
258341-98-9P 270563-93-4P 270563-96-7P
(pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)
- IT 270563-92-3 279244-43-8 279244-45-0 389859-77-2
398457-16-4 405893-16-5
(pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)
- IT 41440-39-5P
(pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)
- IT 484-47-9, 2,4,5-Triphenylimidazole
(pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)
- IT 50-21-5D, Lactic acid, alkyl esters 57-55-6D, Propylene glycol,
monoalkyl ethers 79-33-4D, alkyl esters 96-48-0,
 γ -Butyrolactone 96-49-1, Ethylene carbonate 97-64-3,
Ethyl lactate 108-32-7, Propylene carbonate 110-43-0,
2-Heptanone 123-86-4, Butyl acetate 502-44-3,
 ϵ -Caprolactone 763-69-9, Ethyl 3-ethoxypropionate
765-14-0 929-37-3 1320-67-8, Propylene glycol monomethyl ether
2182-55-0 4223-11-4 25085-99-8, Epikote 825 26256-87-1,
2,5,8,11-Tetraoxatridec-12-ene 50856-25-2 92268-17-2
160768-40-1 212555-24-3
(pos.-working electron beam or x-ray **resist**
compns. containing cationically-polymerizable monomers and
 ≥ 2 solvents)

L31 ANSWER 43 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:392162 HCAPLUS
DOCUMENT NUMBER: 136:409022

TITLE: **Positive resist composition**
 INVENTOR(S): Aoai, Toshiaki; Yasunami, Shoichiro; Mizutani, Kazuyoshi; Kanna, Shinichi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: U.S. Pat. Appl. Publ., 56 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 2002061464	A1	20020523	US 2001-961281	2001 0925
US 6852467	B2	20050208		
JP 2002333715	A2	20021122	JP 2001-202298	2001 0703
TW 528931	B	20030421	TW 2001-90123599	2001 0925
PRIORITY APPLN. INFO.:			JP 2000-292537	A 2000 0926
			JP 2000-379284	A 2000 1213
			JP 2001-62158	A 2001 0306
			JP 2001-202298	A 2001 0703

AB The present invention relates to a **pos. resist composition** comprising: (A) a fluorine group-containing resin having at least one fluorine atom on at least one of the main chain and the side chain of the polymer skeleton; and having a group capable of decomposing under the action of an acid to increase the solubility in an alkali developer; (B) a compound capable of **generating an acid** upon irradiation with one of actinic ray and radiation; and (C) a surfactant containing at least one of a silicon atom and a fluorine atom. The present invention provides a **pos. photoresist composition** suitable for use in the microlithog. process in the production of VLSI or high-capacity microchip, or in other photo-fabrication processes. The invention **pos. photoresist composition** is capable of forming a highly definite pattern using a vacuum UV ray of < 160 nm.

IT 430437-07-3P 430437-17-5P
 (fluorine group-containing resin for **pos. resist composition**)

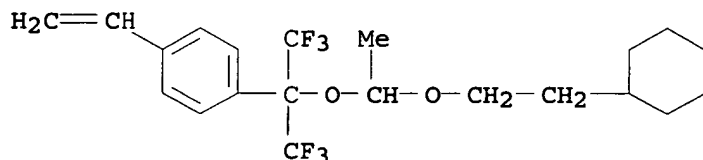
RN 430437-07-3 HCAPLUS

CN 2-Propenenitrile, 2-methyl-, polymer with 1-[1-[1-(2-cyclohexylethoxy)ethoxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]-4-ethenylbenzene and 4-ethenyl- α,α -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 430437-06-2

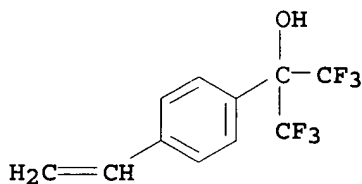
CMF C21 H26 F6 O2



CM 2

CRN 2386-82-5

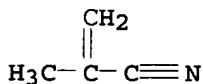
CMF C11 H8 F6 O



CM 3

CRN 126-98-7

CMF C4 H5 N



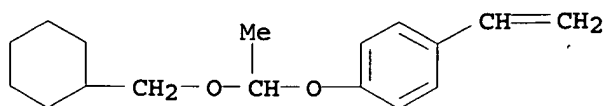
RN 430437-17-5 HCAPLUS

CN Benzenemethanol, 4-ethenyl- α,α -bis(trifluoromethyl)-, polymer with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 430437-16-4

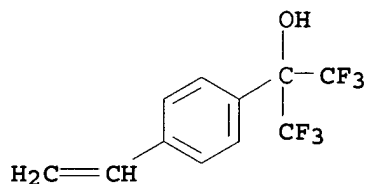
CMF C17 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



IC ICM G03F007-004

INCL 430270100

CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76

IT Surfactants

(fluorine group-containing **pos. resist**
composition containing)

IT **Positive photoresists**

(fluorine group-containing resin for **pos. resist**
composition)

IT Polysiloxanes, uses

(surfactant; fluorine group-containing **pos.**
resist composition containing)

IT Photolithography

(vacuum UV; fluorine group-containing resin for **pos.**
resist composition for)

IT	262617-13-0P	430436-66-1P	430436-67-2P	430436-68-3P
	430436-70-7P	430436-72-9P	430436-74-1P	430436-76-3P
	430436-78-5P	430436-79-6P	430436-81-0P	430436-82-1P
	430436-84-3P	430436-85-4P	430436-86-5P	430436-87-6P
	430436-89-8P	430436-90-1P	430436-91-2P	430436-92-3P
	430436-94-5P	430436-95-6P	430436-97-8P	430436-98-9P
	430436-99-0P	430437-01-7P	430437-03-9P	430437-04-0P
	430437-05-1P	430437-07-3P	430437-09-5P	430437-11-9P
	430437-12-0P	430437-13-1P	430437-14-2P	430437-15-3P
	430437-17-5P	430437-18-6P	430437-19-7P	430437-21-1P
	430437-22-2P	430437-24-4P	430437-26-6P	430437-27-7P
	430437-29-9P	430437-30-2P	430437-32-4P	430437-33-5P
	430437-34-6P	430437-35-7P	430437-36-8P	430437-37-9P
	430437-38-0P	430437-39-1P	430437-40-4P	430437-42-6P
	430437-44-8P	430437-46-0P	431062-12-3P	431062-14-5P
	431062-16-7P	431062-17-8P	431062-18-9P	431062-20-3P
	431062-22-5P	431062-24-7P	431062-25-8P	

(fluorine group-containing resin for **pos. resist**
composition)

IT 144317-44-2, Triphenylsulfonium nonaflate

(photoacid generator; fluorine group-containing
pos. resist composition containing)
IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9,
Megafac F176 216679-67-3, Megafac R08
(surfactant; fluorine group-containing pos.
resist composition containing)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 44 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:378689 HCAPLUS

DOCUMENT NUMBER: 136:393271

TITLE: Electron beam- or x-ray resist
compositions with high sensitivity and
resolution

INVENTOR(S): Kodama, Kunihiro; Aogo, Toshiaki

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002148788	A2	20020522	JP 2000-343818	2000 1110
PRIORITY APPLN. INFO.: JP 2000-343818				2000 1110

OTHER SOURCE(S): MARPAT 136:393271

AB The composition contains a photoacid generator (A)
containing ≥ 1 disulfone compound and sulfonium and/or iodonium
sulfonate and a polymer (B) bearing an acid-degradable group for
increasing solubility in an alkali developer solution The composition, showing
good PSD (post coating delay) stability, gives a pattern with good
profile.

IT 288620-13-3 288620-15-5 289706-85-0

325143-37-1 359434-80-3 372968-15-5

(alkali-soluble polymer; electron beam- or x-ray resist
comps. containing onium sulfonates with high sensitivity
and resolution)

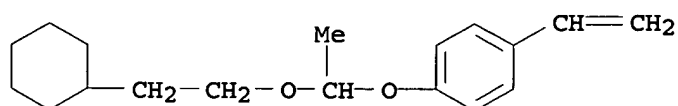
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

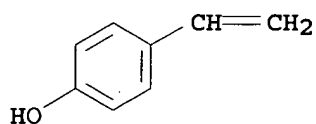
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



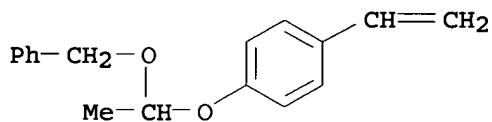
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

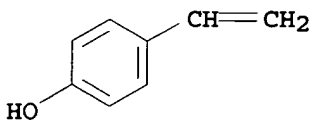
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CM 2

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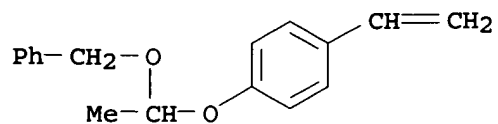
RN 289706-85-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

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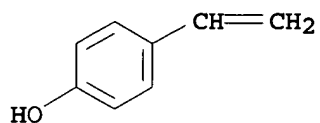
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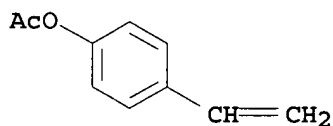
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CM 3

CRN 2628-16-2

CMF C10 H10 O2



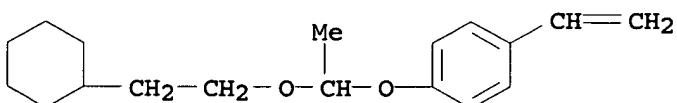
RN 325143-37-1 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-
4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI)
(CA INDEX NAME)

CM 1

CRN 288620-12-2

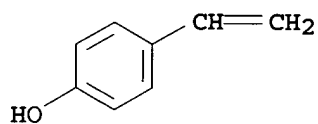
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CM 2

CRN 2628-17-3

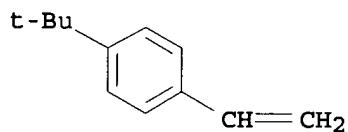
CMF C8 H8 O



CM 3

CRN 1746-23-2

CMF C12 H16



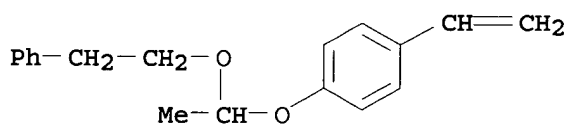
RN 359434-80-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and
1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 246157-37-9

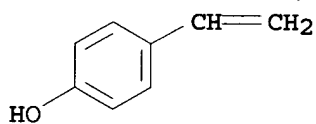
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CM 2

CRN 2628-17-3

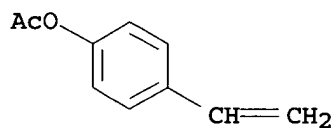
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



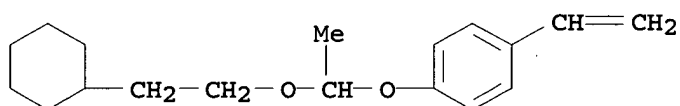
RN 372968-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

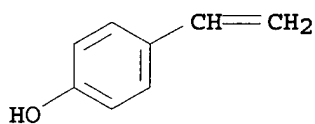
CMF C18 H26 O2



CM 2

CRN 2628-17-3

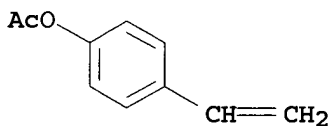
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



IC ICM G03F007-004

ICS G03F007-004; C08K005-00; C08L025-18; C08L061-06; C08L101-02; G03F007-038; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38

ST **pos** electron beam **resist** high sensitivity;
sulfonium photoacid generator x ray resist;

- resist post coating delay stability**
- IT Electron beam resists
X-ray resists
(neg.-working; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT Phenolic resins, uses
(novolak, cresol, alkali-soluble polymer; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT Electron beam **resists**
X-ray **resists**
(pos.-working; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 24424-99-5DP, Di-tert-butyl dicarbonate, reaction products with polyhydroxystyrene 24979-70-2DP, VP 8000, reaction products with di-tert-Bu dicarbonate 86830-84-4DP, Poly(5-vinyl-1,3-benzodioxole), hydrolyzed 95418-59-0DP, p-tert-Butoxystyrene-styrene copolymer, hydrolyzed 103983-46-6DP, Ether, 2-cyclohexylethyl vinyl, reaction products with polyhydroxystyrene 185405-14-5P, 4-Hydroxystyrene-5-vinyl-1,3-benzodioxole copolymer 398457-06-2P, Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 4-ethenyl-1,2-benzenediol and 5-ethenyl-1,3-benzodioxole 426832-90-8DP, hydrolyzed 426832-91-9P
(alkali-soluble polymer; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 24979-70-2, VP 8000 27029-76-1, m-Cresol-p-cresol-formaldehyde copolymer 129674-22-2 158593-28-3 199432-82-1 200808-68-0 216258-44-5 288620-13-3 288620-15-5 289706-85-0 325143-37-1 359434-80-3 372968-15-5 387382-45-8 387382-49-2 398457-05-1
(alkali-soluble polymer; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 162846-57-3P
(crosslinking agent; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 3089-11-0P 17464-88-9P 32449-09-5P 161679-94-3P 185502-11-8P 185502-14-1P 185502-15-2P 197087-74-4P
(crosslinking agent; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 153698-63-6 153698-65-8
(dissoln. inhibitor; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 110726-28-8, 1-[α -Methyl- α -(4'-hydroxyphenyl)ethyl]-4-[α' , α' -bis(4''-hydroxyphenyl)ethyl]benzene
(for dissoln. inhibitor or crosslinking agent preparation; electron beam- or x-ray **resist compns.** containing onium sulfonates with high sensitivity and resolution)
- IT 76937-83-2, $\alpha,\alpha,\alpha',\alpha',\alpha'',\alpha''$ -Hexakis(4-hydroxyphenyl)-1,3,5-triethylbenzene 148452-55-5, 1,3,3,5-Tetrakis(4-hydroxyphenyl)pentane
(for dissoln. inhibitor preparation; electron beam- or x-ray **resist compns.** containing onium sulfonates with

high sensitivity and resolution)

IT 10409-07-1 13603-79-7 14159-45-6 22040-25-1 58113-98-7
 91222-47-8 124737-97-9 138529-81-4 138529-84-7 144317-44-2
 153698-46-5 153698-66-9 154220-26-5 194712-93-1
 197447-16-8 258341-98-9 258872-05-8 270563-93-4
 270563-96-7 279244-50-7 297742-41-7 389859-76-1
 398141-18-9 426832-92-0 426832-93-1 426832-94-2
 426832-95-3

(photoacid generator; electron beam- or
 x-ray resist compns. containing onium
 sulfonates with high sensitivity and resolution)

L31 ANSWER 45 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:368020 HCAPLUS
 DOCUMENT NUMBER: 136:393268
 TITLE: Positive-working resist compositions
 containing sulfonic acid generators
 INVENTOR(S): Kodama, Kunihiko; Nishiyama, Fumiyuki
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002139838	A2	20020517	JP 2000-332802	2000 1031
PRIORITY APPLN. INFO.:				2000 1031
				2000 1031

AB The compns., which show high sensitivity, high resolution, and improved process latitude, and give resist pattern with good rectangular profile, contain (a) compds. which generate sulfonic acids having alkyl group substituted with ≥ 1 F upon irradiation with actinic ray and (b) resins having a repeating unit $[\text{CH}_2\text{CHR}_1(\text{C}_6\text{H}_4\text{OCR}_2\text{R}_3\text{OR})]$ [$\text{R}_1 = \text{H}$, alkyl, halo; $\text{R}_2, \text{R}_3 = \text{H}$, alkyl; $\text{R} = (\text{un})\text{substituted C}_{\geq 5}$ alicyclic hydrocarbyl, $(\text{un})\text{substituted C}_{\geq 6}$ aryl, $(\text{un})\text{substituted C}_{\geq 4}$ heterocyclyl, $(\text{CH}_2)_n\text{XR}_4$ ($n = 1-3$; $\text{X} = \text{direct bond, linking group}$; $\text{R}_4 = \text{any group given for R}$); ≥ 2 of R , R_2 , and R_3 may be bonded together to form a ring] which are decomposed by acids and show increased soluble in an alkaline developer. The compns. may addnl. contain (c) dissoln. inhibitors with mol. weight ≤ 3000 which have acid-decomposable group and show increased dissoln. rate in an alkaline developer upon action of acids, (d) N-containing basic compds. and/or basic onium salts, and (e) F-containing surfactants and/or silicone surfactants.

IT 288620-15-5P, p-(1-Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer 289706-85-0P, p-Acetoxystyrene-p-hydroxystyrene-p-(1-phenethyloxyethoxy)styrene copolymer 325143-37-1P, p-tert-Butylstyrene-p-[1-(cyclohexylethoxy)ethoxy]styrene-p-hydroxystyrene copolymer (pos.-working resist compns. containing fluoroalkanesulfonic acid generators and poly(hydroxystyrenes) having alicyclic or

(hetero)aromatic group)

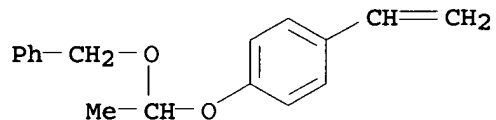
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

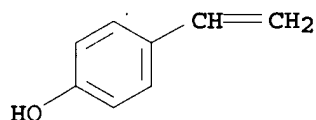
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



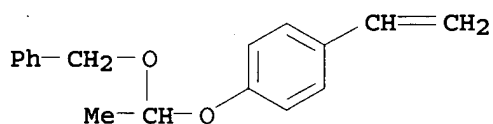
RN 289706-85-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

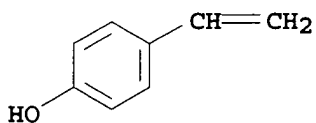
CMF C17 H18 O2



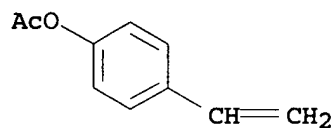
CM 2

CRN 2628-17-3

CMF C8 H8 O

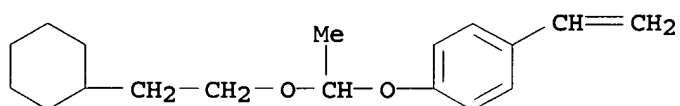


CM 3

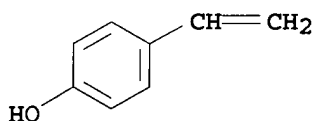
CRN 2628-16-2
CMF C10 H10 O2

RN 325143-37-1 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI)
 (CA INDEX NAME)

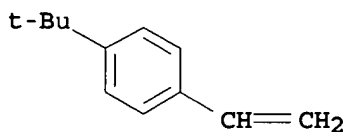
CM 1

CRN 288620-12-2
CMF C18 H26 O2

CM 2

CRN 2628-17-3
CMF C8 H8 O

CM 3

CRN 1746-23-2
CMF C12 H16

IC ICM G03F007-039
 ICS C08F012-24; C08K005-42; C08L025-18; C08L083-04; G03F007-004;

H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 102-82-9P, Tri-n-butylamine 108-24-7DP, Acetic anhydride, reaction products with poly(p-hydroxystyrene) ethers 109-53-5DP, Isobutyl vinyl ether, reaction products with Bu acrylate-hydroxystyrene copolymer 926-02-3DP, tert-Butyl vinyl ether, reaction products with poly(hydroxystyrene) and cyclohexaneethanol 3040-44-6P, 1-Piperidineethanol 4442-79-9DP, Cyclohexaneethanol, reaction products with poly(hydroxystyrene) and tert-Bu vinyl ether 24979-70-2DP, VP 8000, reaction products with cyclohexaneethanol, tert-Bu vinyl ether, and 147625-42-1P, Poly(p-hydroxystyrene) tert-butyl carbonate 158593-28-3P, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene copolymer 159296-87-4DP, tert-Butyl acrylate-p-vinylphenol copolymer, reaction products with iso-Bu vinyl ether 159296-87-4P, tert-Butyl acrylate-p-vinylphenol copolymer 199432-81-0P 199432-82-1P, p-Hydroxystyrene-p-(1-isobutoxyethoxy)styrene copolymer 200808-68-0P, tert-Butyl acrylate-p-hydroxystyrene-styrene copolymer 287381-58-2P **288620-15-5P**, p-(1-Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer **289706-85-0P**, p-Acetoxystyrene-p-hydroxystyrene-p-(1-phenethyloxyethoxy)styrene copolymer **325143-37-1P**, p-tert-Butylstyrene-p-[1-(cyclohexylethoxy)ethoxy]styrene-p-hydroxystyrene copolymer 326592-04-5P 398457-05-1P 425671-10-9P, p-Acetoxystyrene-p-[1-(4-tert-butylcyclohexyl)carboxyethoxy]styrene-p-hydroxystyrene copolymer

(pos.-working resist compns. containing fluoroalkanesulfonic acid generators and poly(hydroxystyrenes) having alicyclic or (hetero)aromatic group)

L31 ANSWER 46 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:345222 HCAPLUS

DOCUMENT NUMBER: 136:377471

TITLE: Positively working radiation-sensitive
resist composition with
 improved coatability

INVENTOR(S): Kanna, Shinichi; Kodama, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 63 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002131898	A2	20020509	JP 2000-327424	2000 1026
PRIORITY APPLN. INFO.:			JP 2000-327424	2000 1026

OTHER SOURCE(S): MARPAT 136:377471

AB The composition contains (A) polymers increasing solubility in alkali developers by decomposition with **acids**, (B) **acid**

generator by irradiation of actinic ray, (C) organic basic compds., (D) solvents, and (E) 50-5000 ppm surfactants, preferably having fluoroalkyl group in the mol., to get discolored by irradiation of actinic ray. The composition prevents generation of standing wave.

IT 288620-15-5P, p-(1-Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer
(pos.-working radiation-sensitive resist composition containing fluoroalkyl-substituted discolorable surfactant with improved coatability)

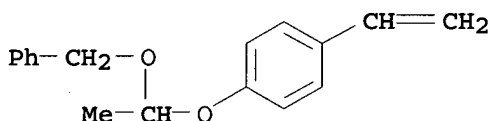
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

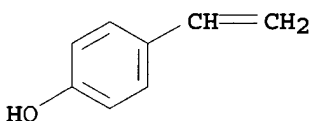
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-004

ICS G03F007-004; C08K005-00; C08L101-12; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Positive photoresists

Surfactants

(pos.-working radiation-sensitive resist composition containing fluoroalkyl-substituted discolorable surfactant with improved coatability)

IT 13891-29-7, Triphenylsulfonium p-toluenesulfonate 138529-81-4,
Bis(cyclohexylsulfonyl)diazomethane 197447-16-8 422508-79-0

(photoacid generator; pos.-working radiation-sensitive resist composition containing fluoroalkyl-substituted discolorable surfactant with improved coatability)

IT 109-53-5DP, Isobutyl vinyl ether, reaction products with Bu acrylate-hydroxystyrene copolymer 926-02-3DP, tert-Butyl vinyl ether, reaction products with hydroxystyrene polymer and cyclohexaneethanol 4442-79-9DP, Cyclohexaneethanol, reaction products with hydroxystyrene polymer and Bu vinyl ether 24979-70-2DP, VP 8000, reaction products with Bu vinyl ether and cyclohexaneethanol 121273-79-8P 129674-22-2P,

p-(tert-Butoxycarbonyloxy)styrene-p-hydroxystyrene copolymer
 158593-28-3P, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene copolymer
 159296-87-4P, tert-Butyl acrylate-p-vinylphenol copolymer
 199432-82-1P, p-Hydroxystyrene-p-(1-isobutoxyethoxy)styrene
 copolymer 200808-68-0P, tert-Butyl acrylate-p-hydroxystyrene-
 styrene copolymer 288620-15-5P, p-(1-
 Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer 325143-38-2P
 365971-61-5P 365971-64-8P 365971-70-6P 365971-71-7P
 365971-72-8P 376600-58-7P 387382-49-2P 422508-57-4P
 422508-61-0P 422508-62-1P 422508-64-3P 422508-65-4P
 422508-66-5P 422508-67-6P 422508-71-2P 422508-72-3P
 422508-74-5P 422508-76-7P 422508-77-8P 422508-78-9P

(pos.-working radiation-sensitive **resist**

composition containing fluoroalkyl-substituted discolorable
 surfactant with improved coatability)

IT 524-38-9, N-Hydroxyphthalimide 3744-08-9, Triphenylsulfonium
 iodide 141784-10-3, 2-Nitro-6-trifluoromethylbenzyl alcohol
 365971-60-4

(pos.-working radiation-sensitive **resist**

composition containing fluoroalkyl-substituted discolorable
 surfactant with improved coatability)

IT 102-82-9, Tributylamine 484-47-9, 2,4,5-Triphenylimidazole
 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 312386-77-9
 422508-59-6 422508-63-2 422508-69-8

(pos.-working radiation-sensitive **resist**

composition containing fluoroalkyl-substituted discolorable
 surfactant with improved coatability)

L31 ANSWER 47 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:253087 HCAPLUS

DOCUMENT NUMBER: 136:286595

TITLE: **Positive resist**
composition

INVENTOR(S): Uenishi, Kazuya

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 91 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1193556	A1	20020403	EP 2001-120747	2001 0906
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 2002058206	A1	20020516	US 2001-945747	2001 0905
JP 2002169294	A2	20020614	JP 2001-268992	2001 0905
PRIORITY APPLN. INFO.:				2000 0906
JP 2000-270158				A

JP 2000-290563

A

2000
0925

OTHER SOURCE(S): MARPAT 136:286595

AB A pos. electron composition comprises: (a) a compound capable of **generating** an acid upon irradiation with a radiation; (b) a compound having a cationically polymerizable function; and (c) a solvent mixture containing at least one solvent selected from Group (A): propylene glycol monoalkyl ether carboxylate; and at least one solvent selected from Group (B): propylene glycol monoalkyl ether, alkyl lactate, an acetic ester, a chain ketone and an alkyl alkoxypropionate; and Group (C): γ -butyrolactone, an ethylene carbonate and a propylene carbonate. The object of the present invention is to provide a pos. chemical amplification type **resist composition** for electron beam or x-ray, which is satisfied in the properties regarding sensitivity and resolution for electron beam or x-ray used, rectangular resist profile, PCD stability, PED stability, development defect, coatability and solvent solubility

IT 279244-37-0 288620-13-3 359434-80-3

(binder; electron beam and x-ray pos. resist
composition containing)

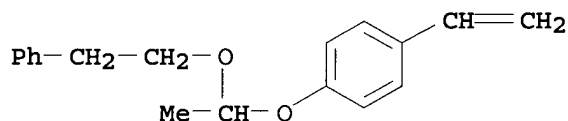
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

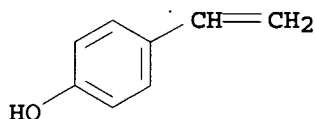
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



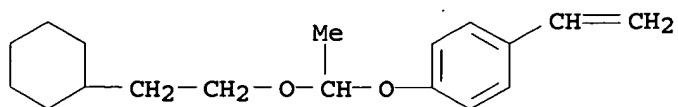
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

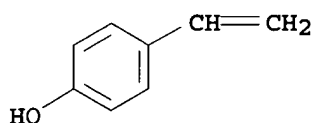
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



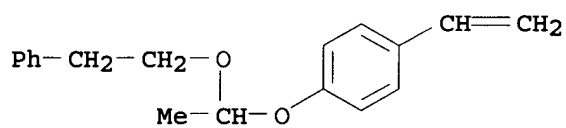
RN 359434-80-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and
1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 246157-37-9

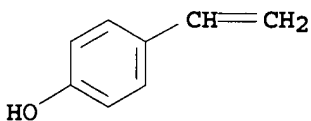
CMF C18 H20 O2



CM 2

CRN 2628-17-3

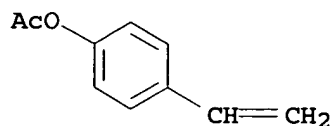
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



- IC ICM G03F007-004
ICS G03F007-039
- CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38
- ST electron beam x ray **resist compn** solvent
- IT Electron beam **resists**
X-ray **resists**
(pos.-working; electron beam and x-ray pos. **resist composition**)
- IT Polysiloxanes, uses
(surfactant; electron beam and x-ray pos. **resist composition** containing)
- IT 153698-46-5 258341-98-9 270563-92-3 270563-93-4
270563-96-7 279244-43-8 279244-45-0 398457-16-4
405893-15-4 405893-16-5
(acid generator; electron beam and x-ray pos. **resist composition** containing)
- IT 142952-62-3 149614-53-9 158593-28-3 177984-02-0
177984-03-1 279244-37-0 288620-13-3
359434-80-3 405893-14-3 405893-17-6 405893-18-7
(binder; electron beam and x-ray pos. **resist composition** containing)
- IT 24979-70-2, VP-5000
(binder; electron beam and x-ray pos. **resist composition** containing)
- IT 41440-39-5P
(cationically polymerizable compound; electron beam and x-ray pos. **resist composition** containing)
- IT 502-44-3, ε-Caprolactone 623-27-8, Terephthalaldehyde
765-14-0 929-37-3 2182-55-0 4223-11-4 4413-28-9
25085-99-8, Epikote 825 50856-25-2 92268-17-2 160768-40-1
(cationically polymerizable compound; electron beam and x-ray pos. **resist composition** containing)
- IT 153698-63-6P 153698-65-8P 153698-69-2P 196709-88-3P
(dissoln. inhibiting compound; electron beam and x-ray pos. **resist composition** containing)
- IT 152151-64-9
(dissoln. inhibiting compound; electron beam and x-ray pos. **resist composition** containing)
- IT 24979-77-9DP, Poly(3-acetoxystyrene), partially hydrolyzed
405893-13-2P
(electron beam and x-ray pos. **resist composition** containing)
- IT 24979-70-2DP, VP-8000, reaction product with dibutyl-dicarbonate or cyclohexylphenoxyethyl vinyl ether 105649-65-8DP, Poly(3-tert-butoxystyrene), hydrolyzed 160309-96-6DP, t-Butylmethacrylate-p-acetoxystyrene copolymer, hydrolyzed
(electron beam and x-ray pos. **resist composition** containing)
- IT 95418-59-0DP, p-tert-Butoxystyrene-styrene copolymer, hydrolyzed
(electron beam and x-ray pos. **resist**

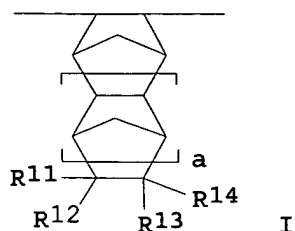
composition containing)
IT 484-47-9, 2,4,5-Triphenylimidazole
(organic basic compound; electron beam and x-ray pos.
resist composition containing)
IT 65-85-0, Benzoic acid, reactions 110-75-8, 2-Chloroethyl vinyl
ether 110-87-2, 3,4-Dihydro-2H-pyran 1131-60-8,
p-Cyclohexylphenol 5292-43-3, tert-Butyl bromoacetate
24424-99-5, Di-tert-butyl-dicarbonate 76937-83-2 110726-28-8
148452-55-5, 1,3,3,5-Tetrakis(4-hydroxyphenyl)pentane
153698-47-6, Cumyl bromoacetate
(preparation of electron beam and x-ray pos.
resist composition)
IT 212555-24-3P, 4-Cyclohexylphenoxyethyl vinyl ether
(preparation of electron beam and x-ray pos.
resist composition)
IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate
97-64-3, Ethyl lactate 108-32-7, Propylene carbonate 110-43-0,
2-Heptanone 123-86-4, Butyl acetate 763-69-9, Ethyl
3-ethoxypropionate 1320-67-8, Propylene glycol monomethyl ether
84540-57-8, Propylene glycol monomethyl ether acetate
98516-33-7, Propylene glycol monomethyl ether propionate
(solvent; electron beam and x-ray pos. resist
composition containing)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L31 ANSWER 48 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:837198 HCAPLUS
DOCUMENT NUMBER: 135:364522
TITLE: Positively-working photoresist composition
containing norbornene polymer
INVENTOR(S): Sato, Kenichiro; Aogo, Toshiaki
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	----	-----	----
JP 2001318465	A2	20011116	JP 2000-138882	2000 0511
PRIORITY APPLN. INFO.:				2000 0511
				2000 0511

GI



AB The composition contains a compound generating acids under radiation irradiation and a polymer involving norbornene polymer-type repeating unit I [R11-R14 = H, (substituted) alkyl; a = 0, 1] and units containing an **acid-decomposable** group represented as CO₂CHR₁₅O(R₁₆A)mR₁₇ [R₁₅ = H, alkyl; R₁₆ = direct bond, H, (substituted) C1-20 linear or branched alkyl; A = direct bond, ether, thioether, amide group; R₁₇ = H, (substituted) linear or branched alkyl, (substituted) aryl, (substituted) aralkyl, (substituted) alicyclic group, (substituted) cyclic ether] whose dissolving rate in an alkaline developer is increased by acids. The composition is suitable for photolithog. in semiconductor device fabrication, especially, for forming contact holes with enhanced post exposure delay (PED) stability.

IT 373365-62-9P

(pos.-working photoresist composition containing norbornene polymer with enhanced post exposure delay stability for)

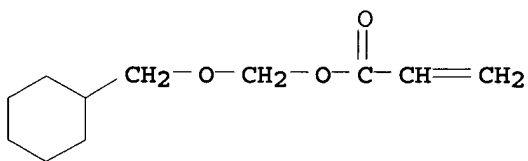
RN 373365-62-9 HCAPLUS

CN 2-Propenoic acid, (cyclohexylmethoxy)methyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 373365-61-8

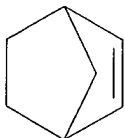
CMF C11 H18 O3



CM 2

CRN 498-66-8

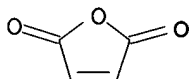
CMF C7 H10



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS C08F220-00; C08F222-04; C08F232-08; C08K005-00; C08L033-04;
C08L035-00; C08L045-00; G03F007-004; H01L021-027CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 38, 76

IT 373365-62-9P

(pos.-working photoresist composition containing norbornene polymer with
enhanced post exposure delay stability for)

L31 ANSWER 49 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:760378 HCAPLUS

DOCUMENT NUMBER: 135:310932

TITLE: **Positive-working photoresist
compositions** for semiconductor device
fabrication

INVENTOR(S): Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001290273	A2	20011019	JP 2000-106810	2000 0407

PRIORITY APPLN. INFO.: JP 2000-106810

2000
0407

AB The compns., which show high sensitivity, high resolution, and good PED (post exposure delay) stability and are especially useful in contact hole formation, contain (A) resins which have a repeating unit (I) $[\text{CH}_2\text{CH}[(\text{CH}_2)_n\text{SiR}_1\text{R}_2\text{R}_3]]$ ($\text{R}_1\text{-R}_3$ = alkyl, haloalkyl, alkoxy, trialkylsilyl, trialkylsilyloxy; $n = 0, 1$) and another repeating unit (II) having a group $\text{CO}_2\text{CHR}_{11}\text{OR}_{12}$ ($\text{R}_{11} = \text{H}$, alkyl; R_{12} = hydrocarbyl) and show increased solubility in an alkaline developer by acid composition and (B) compds. which **generate acids** upon irradiation with actinic ray or radiation. The resins may have a repeating unit derived from maleic anhydride or maleimide.

IT 366815-01-2P

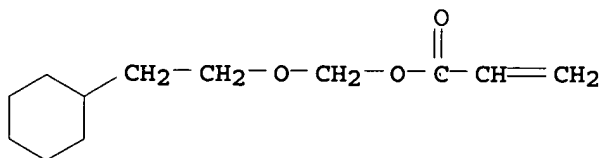
(pos. photoresist compns. with
good post exposure delay stability containing resins having silyl

group)
 RN 366815-01-2 HCAPLUS
 CN 2-Propenoic acid, (2-cyclohexylethoxy)methyl ester, polymer with
 2,5-furandione and trimethyl-2-propenylsilane (9CI) (CA INDEX
 NAME)

CM 1

CRN 366815-00-1

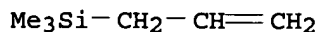
CMF C12 H20 O3



CM 2

CRN 762-72-1

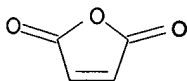
CMF C6 H14 Si



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039
 ICS C08F220-26; C08F222-00; C08F230-08; C08F232-00; C08K005-00;
 C08L035-00; C08L043-04; C08L101-06; G03F007-075; H01L021-027
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
 ST **pos photoresist** silyl contg copolymer;
 semiconductor device fabrication **pos photoresist**
 IT **Positive photoresists**
 Semiconductor device fabrication
 (**pos. photoresist compns.** with
 good post exposure delay stability containing resins having silyl
 group)
 IT 945-51-7P, Diphenyl sulfoxide 3240-34-4P, Iodosobenzene
 diacetate 81416-41-3P 258342-09-5P 366814-96-2P
 (**photoacid generator** preparation from;
pos. photoresist compns. with good
 post exposure delay stability containing resins having silyl group)
 IT 108-67-8, Mesitylene, reactions 591-50-4, Iodobenzene

1818-07-1, Octyl phenyl ether 2049-95-8, tert-Amylbenzene
 2189-60-8, Octylbenzene 2795-39-3 2926-27-4, Potassium
 trifluoromethanesulfonate 7758-05-6, Potassium iodate
 120193-44-4

(photoacid generator preparation from;

pos. photoresist compns. with good

post exposure delay stability containing resins having silyl group)

IT 66003-78-9 138529-81-4 138529-84-7 144089-15-6 206861-54-3
 301525-08-6 312386-77-9 324771-13-3

(photoacid generator; pos.

photoresist compns. with good post exposure

delay stability containing resins having silyl group)

IT 258341-95-6P 258341-96-7P 258341-97-8P 258341-98-9P
 258341-99-0P 279218-73-4P 279218-74-5P 279218-75-6P

(photoacid generator; pos.

photoresist compns. with good post exposure

delay stability containing resins having silyl group)

IT 258342-10-8P

(pos. photoresist compns. with

good post exposure delay stability containing resins having silyl
 group)

IT 336609-27-9P, Allyltrimethylsilane-ethoxymethyl acrylate-maleic
 anhydride copolymer 366814-98-4P 366814-99-5P

366815-01-2P 366815-02-3P 366815-04-5P 366815-05-6P

366815-07-8P 366815-09-0P 366815-10-3P 366815-12-5P

366815-14-7P 366815-15-8P

(pos. photoresist compns. with

good post exposure delay stability containing resins having silyl
 group)

IT 576-26-1, 2,6-Xylenol

(pos. photoresist compns. with

good post exposure delay stability containing resins having silyl
 group)

L31 ANSWER 50 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:673597 HCAPLUS

DOCUMENT NUMBER: 135:233902

TITLE: Chemically amplified positive photoresists
 containing two kinds of acid generators and
 showing improved exposure margin

INVENTOR(S): Kanna, Shinichi; Kodama, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001249460	A2	20010914	JP 2000-318057	2000 1018
US 2001033993	A1	20011025	US 2000-748198	2000 1227
US 6727036	B2	20040427		
TW 495646	B	20020721	TW 2000-89127959	

2000
1227

PRIORITY APPLN. INFO.:

JP 1999-370355

A

1999
1227

AB The photoresists, suited for deep-UV photolithog. in semiconductor device fabrication, comprise (A) **acid-labile** polymers $\text{OCHR}_1\text{O}(\text{CH}_2)_n\text{W}$ (R_1 = C1-4 alkyl; W = amino, ammonium, mercapto, aryl, cycloalkyl, and/or organic groups possessing O, N, S, P, and/or Si and C; n = 1-4 integer), (B) two kinds of compds. both generating acids upon exposure of actinic ray, (C) surfactants, (D) solvents, and (E) optional organic bases. The one kinds of the acid generators participate in acidolysis of A and the other kinds do not. The photoresists show minimized line-width variation for dose variation.

IT **279244-37-0P**, p-[1-(Cyclohexylethoxy)ethoxy]styrene-p-hydroxystyrene copolymer **288620-15-5P**
359434-80-3P 359434-81-4P

(chemical amplified pos. photoresists containing two kinds of acid generators and showing improved exposure margin)

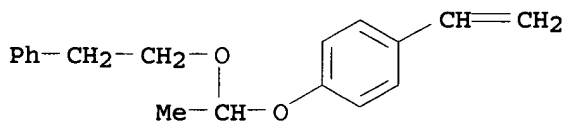
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

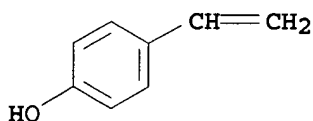
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



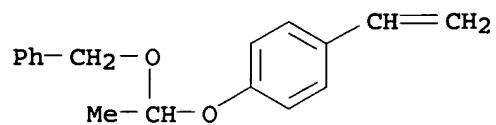
RN 288620-15-5 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

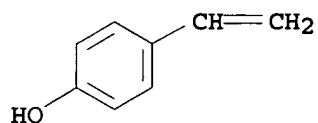
CMF C17 H18 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



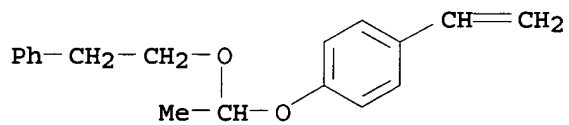
RN 359434-80-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and
1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 246157-37-9

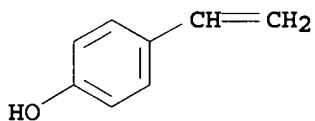
CMF C18 H20 O2



CM 2

CRN 2628-17-3

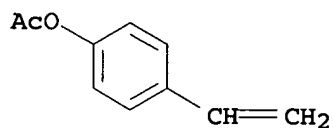
CMF C8 H8 O



CM 3

CRN 2628-16-2

CMF C10 H10 O2



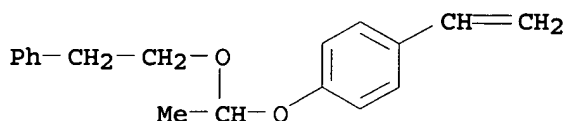
RN 359434-81-4 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

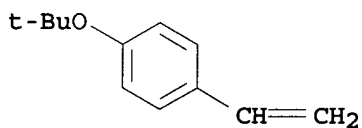
CMF C18 H20 O2



CM 2

CRN 95418-58-9

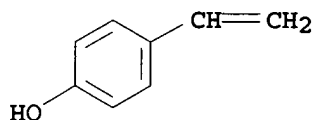
CMF C12 H16 O



CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS C08K005-00; C08L101-06; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 46

IT 108-24-7DP, Acetic anhydride, reaction products with poly-p-hydroxystyrene ethers 926-02-3DP, tert-Butyl vinyl ether, reaction products with poly-p-hydroxystyrene, cyclohexaneethanol,

and acetic anhydride 4442-79-9DP, Cyclohexaneethanol, reaction products with poly-p-hydroxystyrene, tert-Bu vinyl ether, and acetic anhydride 24979-70-2DP, VP 8000, ethers 279244-37-0P, p-[1-(Cyclohexylethoxy)ethoxy]styrene-p-hydroxystyrene copolymer 288620-15-5P

359434-80-3P 359434-81-4P 359434-83-6P

(chemical amplified pos. photoresists containing two kinds of acid generators and showing improved exposure margin)

L31 ANSWER 51 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:496393 HCAPLUS

DOCUMENT NUMBER: 135:99846

TITLE: Photoresist polymers, their compositions for resist flow processes, manufacture of their patterns for formation of contact holes, and semiconductor devices

INVENTOR(S): Lee, Kun Su; Kim, Jin Su; Kim, Hyung Su; Paik, Ki Ho

PATENT ASSIGNEE(S): Hyundai Electronics Industries Co., Ltd., S. Korea

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

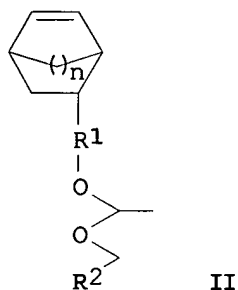
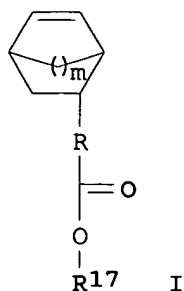
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001188350	A2	20010710	JP 2000-335989	2000 1102
KR 2001051383	A	20010625	KR 2000-64615	2000 1101
US 6537724	B1	20030325	US 2000-704265	2000 1101
GB 2360774	A1	20011003	GB 2000-26800	2000 1102
GB 2360774	B2	20040114		
TW 525041	B	20030321	TW 2000-89123155	2000 1102
PRIORITY APPLN. INFO.:			KR 1999-48075	A 1999 1102
			KR 1999-56545	A 1999 1210

GI



AB The compns. comprise (A) photoresist polymers consisting of (a) copolymers containing $\text{CH}_2:\text{CH}(\text{p-C}_6\text{H}_4\text{OCHMeOCH}_2\text{R}_2)$ or cycloolefin derivs. I and (b) copolymers containing $\text{CH}_2:\text{CR}_8[\text{C}(\text{:O})\text{OR}_{17}]$ or cycloolefin derivs. II [$\text{R}_2 = \text{H}$, (un)substituted C1-10 alkyl, aryl; $\text{R}_8 = \text{H}$, Me; $\text{R}_{17} = \text{acid-labile}$ protective group; R , $\text{R}_1 =$ (un)substituted C0-10 alkylene; $m, n = 1, 2$], (B) photoacid generators, and (C) organic solvents. Patterns are manufactured by forming primary photoresist patterns from the compns. and thermally flowing the patterns to form secondary photoresist patterns. The compns. show moderate change in flow sensitivity and no standing wave effects.

IT 348108-57-6P
(photoresists containing polymer blends with improved flow characteristics for formation of contact holes)

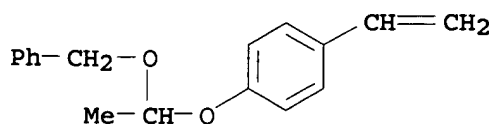
RN 348108-57-6 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with ethenylbenzene and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

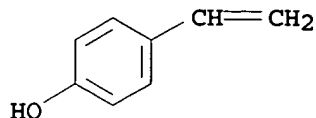
CMF C17 H18 O2



CM 2

CRN 2628-17-3

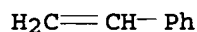
CMF C8 H8 O



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM G03F007-039

ICS G03F007-004; G03F007-40; H01L021-027; H01L021-768;

H01L021-3065

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 76

IT 177034-67-2P 200808-68-0P, tert-Butyl acrylate-4-hydroxystyrene-styrene copolymer 348108-54-3P **348108-57-6P**

348108-59-8P 348108-62-3P

(photoresists containing polymer blends with improved flow characteristics for formation of contact holes)

L31 ANSWER 52 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:261353 HCAPLUS

DOCUMENT NUMBER: 134:303020

TITLE: Far-UV sensitive positive-working chemically amplified **photoresist****composition** for micro photolithography
Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki

INVENTOR(S):

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 2001100421	A2	20010413	JP 1999-280202	1999 0930
PRIORITY APPLN. INFO.:			JP 1999-280202	1999 0930

AB The title composition contains a **photoacid generator** and a resin increasing the solubility towards an alkali developer by reacting with an acid, wherein the resin has a quaternary ammonium salt group. The addition of the acid-sensitive resin containing quaternary ammonium salt group to the composition provides improved development characteristics and eliminates rough edges on the pattern.

IT 334643-24-2DP, partially hydrolyzed 334643-28-6DP, partially hydrolyzed 334643-39-9DP, partially hydrolyzed 334643-42-4DP, partially hydrolyzed (resin containing quaternary ammonium salt group in far-UV sensitive pos.-working chemical amplified **photoresist composition**)

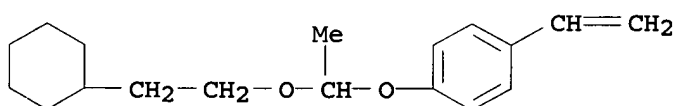
RN 334643-24-2 HCAPLUS

CN Benzenemethanaminium, 4-ethenyl-N,N,N-trimethyl-, salt with pentafluorobenzenesulfonic acid (1:1), polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

CMF C18 H26 O2



CM 2

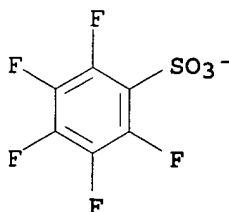
CRN 334642-81-8

CMF C12 H18 N . C6 F5 O3 S

CM 3

CRN 46377-88-2

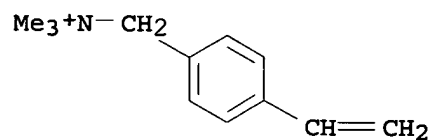
CMF C6 F5 O3 S



CM 4

CRN 46231-82-7

CMF C12 H18 N

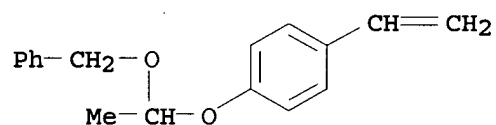


RN 334643-28-6 HCAPLUS
 CN Benzenemethanaminium, 4-ethenyl-N,N,N-trimethyl-, salt with
 4-methylbenzenesulfonic acid (1:1), polymer with
 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX
 NAME)

CM 1

CRN 288620-14-4

CMF C17 H18 O2



CM 2

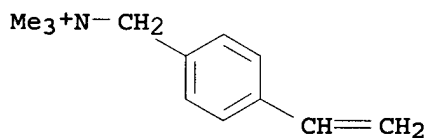
CRN 334643-27-5

CMF C12 H18 N . C7 H7 O3 S

CM 3

CRN 46231-82-7

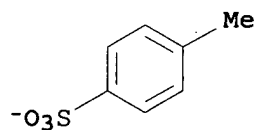
CMF C12 H18 N



CM 4

CRN 16722-51-3

CMF C7 H7 O3 S



RN 334643-39-9 HCAPLUS

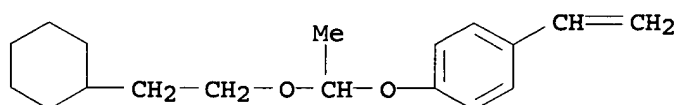
CN Benzenemethanaminium, 4-ethenyl-N,N,N-trimethyl-, salt with

7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid
(1:1), polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-
ethenylbenzene and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

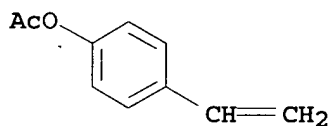
CMF C18 H26 O2



CM 2

CRN 2628-16-2

CMF C10 H10 O2



CM 3

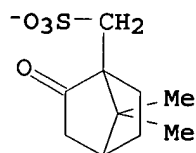
CRN 334643-38-8

CMF C12 H18 N . C10 H15 O4 S

CM 4

CRN 55077-28-6

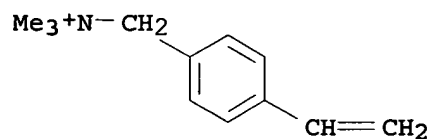
CMF C10 H15 O4 S



CM 5

CRN 46231-82-7

CMF C12 H18 N



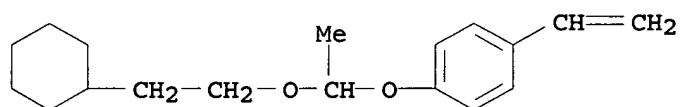
RN 334643-42-4 HCAPLUS

CN Piperidinium, 1-[(4-ethenylphenyl)methyl]-1-methyl-, salt with pentafluorobenzenesulfonic acid (1:1), polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

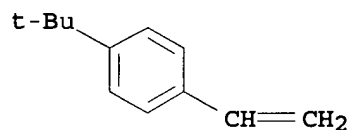
CMF C18 H26 O2



CM 2

CRN 1746-23-2

CMF C12 H16



CM 3

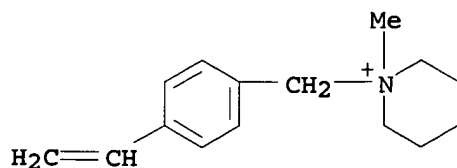
CRN 334643-01-5

CMF C15 H22 N . C6 F5 O3 S

CM 4

CRN 113578-31-7

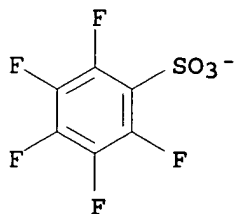
CMF C15 H22 N



CM 5

CRN 46377-88-2

CMF C6 F5 O3 S



IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)
ST far UV sensitive **pos** chem amplified **photoresist compn** photolithog
IT Light-sensitive materials
Photolithography
Photoresists
(far-UV sensitive **pos.**-working **photoresist composition** for micro photolithog.)
IT Quaternary ammonium compounds, preparation
(far-UV sensitive **pos.**-working **photoresist composition** for micro photolithog.)
IT 334642-76-1DP, partially hydrolyzed 334642-79-4DP, partially hydrolyzed 334642-82-9DP, partially hydrolyzed 334642-85-2DP, partially hydrolyzed 334642-89-6DP, partially hydrolyzed 334642-93-2DP, partially hydrolyzed 334642-98-7DP, partially hydrolyzed 334643-02-6DP, partially hydrolyzed 334643-05-9DP, partially hydrolyzed 334643-09-3DP, partially hydrolyzed 334643-12-8DP, partially hydrolyzed 334643-16-2P 334643-19-5DP, partially hydrolyzed 334643-22-0DP, partially hydrolyzed 334643-24-2DP, partially hydrolyzed 334643-28-6DP, partially hydrolyzed 334643-31-1DP, partially hydrolyzed 334643-36-6DP, partially hydrolyzed 334643-39-9DP, partially hydrolyzed 334643-42-4DP, partially hydrolyzed 334643-44-6P 334643-47-9P 334643-50-4P 334643-54-8P 334643-57-1P 334643-62-8P 334643-65-1P 334643-69-5P 334643-72-0P 334643-75-3P 334643-78-6P 334666-19-2DP, partially hydrolyzed 334666-22-7P 334666-25-0P 334666-27-2P 334666-29-4P
(resin containing quaternary ammonium salt group in far-UV sensitive **pos.**-working chemical amplified **photoresist composition**)

L31 ANSWER 53 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:261337 HCAPLUS

DOCUMENT NUMBER: 134:303008

TITLE: Positive-working chemically amplified x-ray and electron-beam sensitive composition and method for forming resist pattern using same
INVENTOR(S): Nio, Hiroyuki; Tamura, Kazutaka; Obayashi, Gentaro

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001100403	A2	20010413	JP 1999-276330	1999 0929

PRIORITY APPLN. INFO.: JP 1999-276330
 1999
 0929

AB The composition contains a polymer and an **acid generator** which is sensitive to x-ray and electron-beam, wherein the polymer has repeating unit derived from α -haloacrylate with an acid sensitive protecting group. The composition, which contains the polymer, provides the high resolution, the high sensitivity, and the good dry-etching resistance.

IT 334535-57-8P 334535-59-0P
 (polymer in pos.-working chemical amplified x-ray and electron-beam sensitive composition)

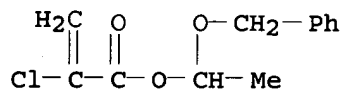
RN 334535-57-8 HCAPLUS

CN Butanedioic acid, methylene-, polymer with 1-(phenylmethoxy)ethyl 2-chloro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 334535-50-1

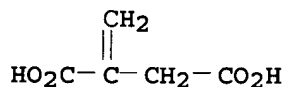
CMF C12 H13 Cl O3



CM 2

CRN 97-65-4

CMF C5 H6 O4

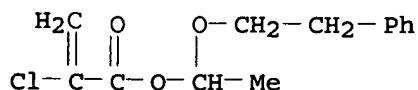


RN 334535-59-0 HCAPLUS

CN Butanedioic acid, methylene-, polymer with 1-(2-phenylethoxy)ethyl 2-chloro-2-propenoate (9CI) (CA INDEX NAME)

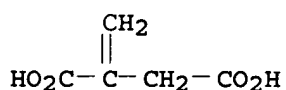
CM 1

CRN 334535-52-3
CMF C13 H15 Cl O3



CM 2

CRN 97-65-4
CMF C5 H6 O4



IC ICM G03F007-004
ICS G03F007-033; G03F007-039; G03F007-20; H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST pos amplified x ray electron beam sensitive **compn**
resist
IT Light-sensitive materials
Photomasks (lithographic masks)
Photoresists
Semiconductor device fabrication
(pos. working light-sensitive composition and method for
resist pattern using same)
IT 261368-26-7P 334535-56-7P, 1-Isobutoxyethyl α -
bromoacrylate-methyl methacrylate copolymer **334535-57-8P**
334535-58-9P 334535-59-0P 334535-60-3P 334535-61-4P
334535-62-5P, 1-(2,2,2-Trifluoroethoxy)ethyl α -
chloroacrylate-2-hydroxyethyl methacrylate copolymer
(polymer in pos.-working chemical amplified x-ray and
electron-beam sensitive composition)

L31 ANSWER 54 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:98663 HCAPLUS
DOCUMENT NUMBER: 134:170820
TITLE: Positive-working silicone-containing
photosensitive compositions
INVENTOR(S): Yasunami, Shoichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2001033974	A2	20010209	JP 1999-202179	

PRIORITY APPLN. INFO.:

JP 1999-202179

1999
07151999
0715

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

AB The compns. contain (a) alkaline-soluble and water-insol. polymer comprising of I and/or II (X = COR, CH(OH)R, carboxyl; R = H, (un)substituted hydrocarbon; R1-5 = OH, (un)substituted (cyclo)alkyl, alkoxy, alkenyl, aralkyl, Ph; Y = alkyl, alkoxy, siloxyl, R0 = H, halogen, (un)substituted aliphatic or aromatic hydrocarbon; l, m, n, q = 0, pos. number; p = pos. number), (b) compds. generating acid on irradiation of active ray or radiant ray, (c) polymers containing **acid-decomposable** groups and showing increase of solubility to alkaline developer on reaction with acid, and (d) Si-containing nonpolymeric compound containing **acid-decomposable** groups and showing increase of solubility to alkaline developer on reaction with acid. Far UV photoresists with high sensitivity and resolution are obtained.

IT 279244-37-0 288620-13-3 289706-85-0
325143-37-1

(pos.-working silicon-containing photoresists for micropattern formation in semiconductor device fabrication)

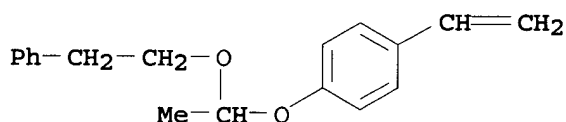
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

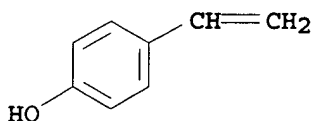
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O

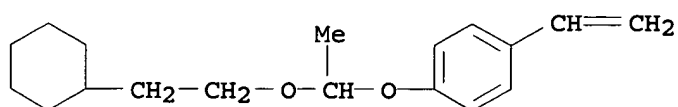


RN 288620-13-3 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

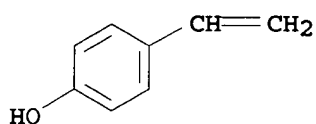
CMF C18 H26 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O

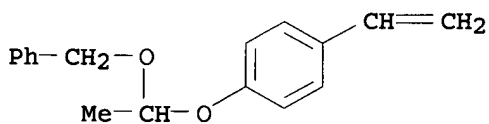


RN 289706-85-0 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 4-ethenylphenyl acetate and 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-14-4

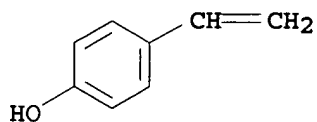
CMF C17 H18 O2



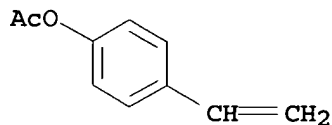
CM 2

CRN 2628-17-3

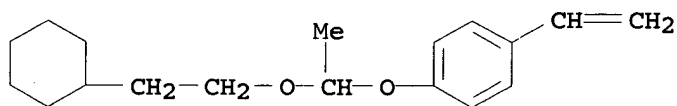
CMF C8 H8 O



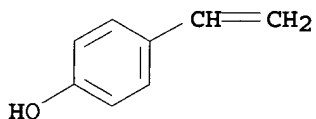
CM 3

CRN 2628-16-2
CMF C10 H10 O2RN 325143-37-1 HCAPLUS
CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene and 1-(1,1-dimethylethyl)-4-ethenylbenzene (9CI)
(CA INDEX NAME)

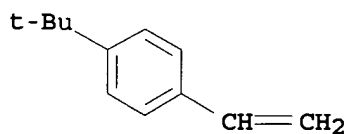
CM 1

CRN 288620-12-2
CMF C18 H26 O2

CM 2

CRN 2628-17-3
CMF C8 H8 O

CM 3

CRN 1746-23-2
CMF C12 H16IC ICM G03F007-075
ICS C08L083-06; G03F007-039; G03F007-36
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)

Section cross-reference(s): 38

IT 51350-55-1D, Phenylsilsesquioxane, acetylated 157374-41-9D,
 Phenylsilsesquioxane, acetylated 177080-68-1 196709-91-8,
 4-Hydroxystyrene-4(1-tert-butoxyethoxy)styrene copolymer
 199432-82-1 216308-45-1 279244-37-0 280566-60-1
 288620-13-3 289706-85-0 325143-37-1
 325143-38-2 325143-39-3 325143-40-6 325143-41-7
 (pos.-working silicon-containing photoresists for micropattern
 formation in semiconductor device fabrication)

L31 ANSWER 55 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:585595 HCAPLUS

DOCUMENT NUMBER: 133:200845

TITLE: Positive photosensitive compositions
containing silicone

INVENTOR(S): Aha, Shoichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000231195	A2	20000822	JP 1999-31591	1999 0209
US 6270941	B1	20010807	US 2000-493285	2000 0128
PRIORITY APPLN. INFO.:			JP 1999-20224	A 1999 0128
			JP 1999-31591	A 1999 0209

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
 *

AB The compns. comprise (a) siloxanes I and/or silsesquioxanes II [X = C(O)R, CH(OH)R, carboxyl; R = H, hydrocarbon; R1-5 = OH, (un)substituted alkyl, cycloalkyl, alkoxy, alkenyl, aralkyl, phenyl; Y = allyl, alkoxy, siloxy; R0 = H, halogen, (un)substituted aliphatic or aromatic hydrocarbon; l, m, n, q = 0, integer; p = integer] that are insol. in water and soluble in alkali, (b) compds. generating acid by irradiation of active beam or radiation, and (c) **acid-decomposable** group-containing polymers having structural repeating units II [R11-13, R15-17 = H, halogen, C(O)ZR113, (un)substituted alkyl,

aralkyl, alkoxy; Z = single bond, O, NH, etc.; R14, R18 = (CH₂)_dA, COZR115A; A = (un)substituted mono- to tetravalent phenyl] which increases its solubility into alkaline developing agents in the presence of acids. Fine line patterns are formed by irradiation under far UV. The compns. are suitable for semiconductor device fabrication.

IT 279244-37-0 288620-13-3 288620-15-5

288620-17-7 288620-21-3

(polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)

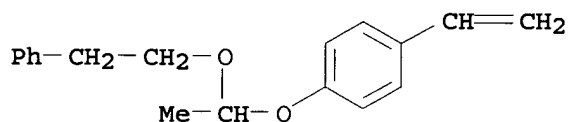
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

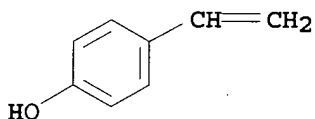
CMF C18 H20 O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



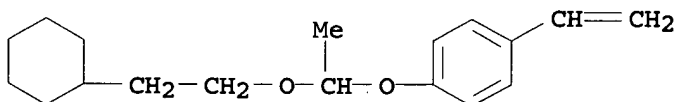
RN 288620-13-3 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-[1-(2-cyclohexylethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 288620-12-2

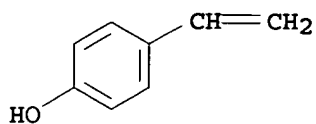
CMF C18 H26 O2



CM 2

CRN 2628-17-3

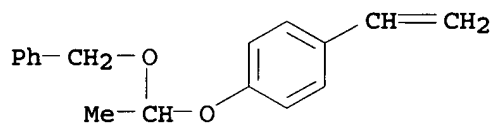
CMF C8 H8 O



RN 288620-15-5 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(phenylmethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

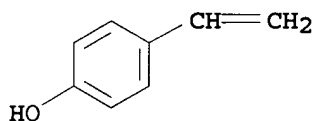
CM 1

CRN 288620-14-4
 CMF C17 H18 O2



CM 2

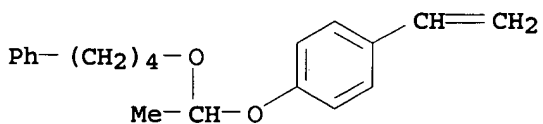
CRN 2628-17-3
 CMF C8 H8 O



RN 288620-17-7 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(4-phenylbutoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

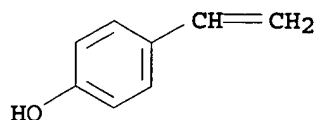
CM 1

CRN 288620-16-6
 CMF C20 H24 O2

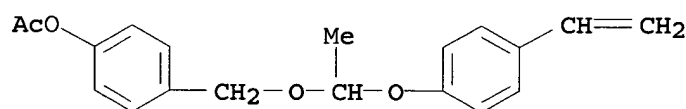


CM 2

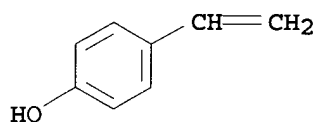
CRN 2628-17-3
 CMF C8 H8 O



RN 288620-21-3 HCAPLUS
 CN Phenol, 4-ethenyl-, polymer with 4-[[1-(4-ethenylphenoxy)ethoxy)methyl]phenyl acetate (9CI) (CA INDEX NAME)
 CM 1
 CRN 288620-20-2
 CMF C19 H20 O4



CM 2
 CRN 2628-17-3
 CMF C8 H8 O



IC ICM G03F007-075
 ICS G03F007-039; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38, 76
 IT 158593-28-3 186769-12-0 196709-91-8 211107-96-9
 279244-37-0 288620-13-3 288620-15-5
 288620-17-7 288620-19-9 288620-21-3
 (polysilicones and/or silsesquioxane pos. photoresists for fabrication of semiconductor devices with ultrafine line patterns)

L31 ANSWER 56 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:452614 HCAPLUS
 DOCUMENT NUMBER: 133:81576
 TITLE: Positive-working resist composition for electron beam and x-ray exposure
 INVENTOR(S): Kodama, Kunihiro; Aogo, Toshiaki; Uenishi, Kazuya
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 59 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2000187330	A2	20000704	JP 1999-275334	1999 0928
KR 2000029118	A	20000525	KR 1999-44865	1999 1016
US 6265135	B1	20010724	US 1999-419905	1999 1018
PRIORITY APPLN. INFO.:			JP 1998-295609	A 1998 1016
			JP 1999-275334	A 1999 0928

OTHER SOURCE(S): MARPAT 133:81576

AB In the resist compns. containing (a) a compound which generates an acid by irradiation with an electron beam and x-ray, (b) a resin having groups which are cleaved by the action of acid to increase the solubility in alkaline developing solns., and (c) a F-type and/or Si-type surfactant, the acid generator is a compound generating a benzenesulfonic, naphthalenesulfonic or anthracenesulfonic acid substituted with ≥ 1 F and/or a ≥ 1 F-containing group. The resist compns. may contain a low-mol.-weight dissoln. inhibitor with mol. weight ≤ 3000 which has an acid-cleavable group and of which the dissolving rate in alkaline developing solns. increases by the action of acid and a resin insol. in water and soluble in alkaline developing solns. in place of (b). The compns. show improved developability and provide high resolution patterns with good profile.

IT 279244-37-0P
(radiation-sensitive resist composition containing acid generator, resin having acid-decomposable group, and surfactant)

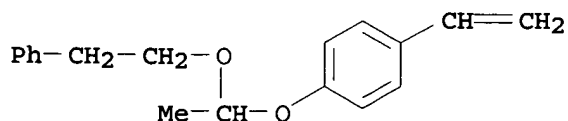
RN 279244-37-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

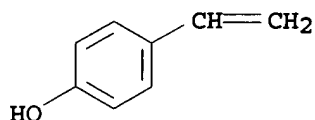
CRN 246157-37-9

CMF C18 H20 O2



CM 2

CRN 2628-17-3
CMF C8 H8 O



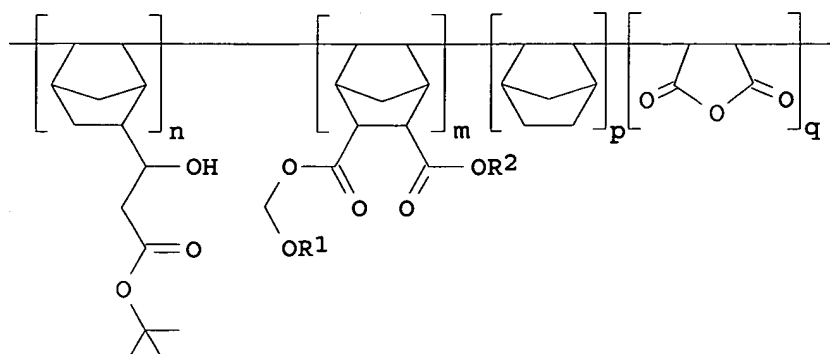
- IC ICM G03F007-039
ICS G03F007-004; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
- IT Polysiloxanes, uses
(Troysol S 366; radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)
- IT Resists
(radiation-sensitive; radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)
- IT 153698-63-6P 153698-69-2P 196709-88-3P
(dissoln. inhibitor; radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)
- IT 484-47-9, 2,4,5-Triphenylimidazole
(organic base; radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)
- IT 3001-72-7, 1,5-Diazabicyclo[4.3.0]non-5-ene 21545-54-0
137462-24-9, Megafac F176 216679-67-3, Megafac R 08
(radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)
- IT 24979-70-2DP, VP 8000, ethers 95418-59-0DP, p-tert-Butoxystyrene-styrene copolymer, hydrolyzed 147625-42-1P 153698-46-5P, Triphenylsulfonium pentafluorobenzenesulfonate 158593-28-3DP, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene copolymer, ethers with poly(hydroxystyrene) 160309-96-6DP, p-Acetoxystyrene-tert-butyl methacrylate copolymer, saponified 212555-24-3DP, ethers with poly(hydroxystyrene) 258341-98-9P 270563-93-4P 270563-96-7P 279244-35-8P 279244-37-0P
(radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)
- IT 24979-70-2, VP 15000 123658-11-7 142096-70-6 153698-66-9 196709-91-8, p-(1-tert-Butoxyethoxy)styrene-p-hydroxystyrene copolymer 270563-98-9 279244-39-2 279244-43-8 279244-45-0 279244-48-3 279244-50-7
(radiation-sensitive resist composition containing acid generator, resin having **acid-decomposable** group, and surfactant)

L31 ANSWER 57 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:209759 HCAPLUS
DOCUMENT NUMBER: 132:243958
TITLE: Chemically amplified **positive photoresist composition**

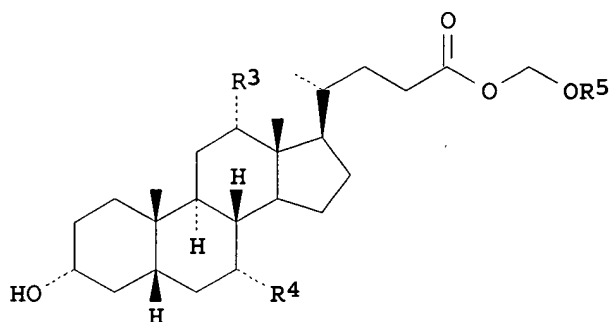
INVENTOR(S): Park, Joo-hyeon; Seo, Dong-chul; Park, Sun-yi;
 Kim, Seong-ju
 PATENT ASSIGNEE(S): Korea Kumho Petrochemical Co. Ltd., S. Korea
 SOURCE: Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 989458	A2	20000329	EP 1999-307323	1999 0915
EP 989458	A3	20000517		
EP 989458	B1	20050831		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
KR 2000020669	A	20000415	KR 1998-39372	1998 0923
US 6268106	B1	20010731	US 1999-337434	1999 0621
JP 2000098615	A2	20000407	JP 1999-202428	1999 0716
JP 3040998	B2	20000515		
AT 303612	E	20050915	AT 1999-307323	1999 0915
PRIORITY APPLN. INFO.:			KR 1998-39372	A 1998 0923

OTHER SOURCE(S): MARPAT 132:243958
 GI



I



II

AB Disclosed is a chemical amplification pos. amplification which can be formed into resist patterns much improved in transparency, photosensitivity and resolution and is suitable to KrF and ArF excimer lasers, enabling a sub-micro lithog. process to be as exquisite as 0.2 μ m or less. This composition is based on a copolymer I (R1 and R2 = alkyl or cyclic alkyl groups, ranging, in polystyrene-reduced weight average mol. weight, from 3,000 to 50,000 with a mol. weight distribution (Mw/Mn) of 1.0 to 2.0), and a low mol. weight compound II (R3 and R4 = H or OH; R5, a low alkyl group, a norbornene or an adamantane or a decalin containing alkyl group).

IT 261778-15-8P

(preparation of polymer as base resin in chemical-amplified resist composition for sub-micro lithog.)

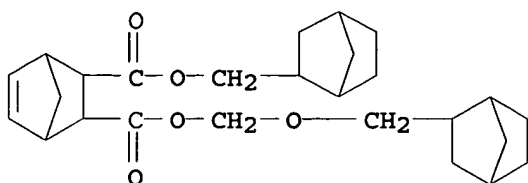
RN 261778-15-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, (bicyclo[2.2.1]hept-2-ylmethoxy)methyl bicyclo[2.2.1]hept-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 261717-04-8

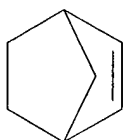
CMF C26 H36 O5



CM 2

CRN 498-66-8

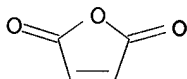
CMF C7 H10



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-004

ICS G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 76

IT Positive photoresists

(chemical-amplified; chemical-amplified resist
composition for sub-micro lithog. containing)

IT 177428-67-0, Methylammonium hydroxide

(chemical-amplified resist composition for
sub-micro lithog. containing)

IT 81416-37-7, Diphenyl(4-methylphenyl)sulfonium triflate

(photoacid generator; chemical-amplified
resist composition for sub-micro lithog. containing)

IT 261778-11-4P 261778-12-5P 261778-13-6P 261788-11-8P

261788-13-0P 261788-15-2P 261788-17-4P 261788-19-6P

(preparation of cholic acid derivative for chemical amplified pos
photoresist composition for sub-micro lithog.)

IT 81-25-4, Cholic acid 83-44-3, Deoxycholic acid 434-13-9,

Lithocholic acid 261716-95-4 261778-09-0 261778-10-3

(preparation of cholic acid derivative for chemical amplified pos
photoresist composition for sub-micro lithog.
using)

IT 195245-82-0P 261716-98-7P 261717-03-7P 261717-04-8P

(preparation of monomer for polymer as base resin in chemical-amplified
resist composition for sub-micro lithog.)

IT 107-30-2 826-62-0 5240-72-2, Bicyclo[2.2.1]heptane-2-methanol
5292-43-3 5453-80-5, 5-Norbornene-2-carboxaldehyde 76198-01-1
261717-02-6

(preparation of monomer of norbornene polymer matrix resin for chemical
amplified **pos. photoresist composition**
for sub-micro lithog. using)

IT 217798-35-1P 220127-72-0P 261717-09-3P 261717-12-8P
261778-14-7P **261778-15-8P**

(preparation of polymer as base resin in chemical-amplified
resist composition for sub-micro lithog.)

L31 ANSWER 58 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:658546 HCAPLUS

DOCUMENT NUMBER: 131:293308

TITLE: **Positively working
photoresist composition
containing acid-generating
compound**

INVENTOR(S): Aogo, Toshiaki; Mizutani, Kazuyoshi; Tan,
Shiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

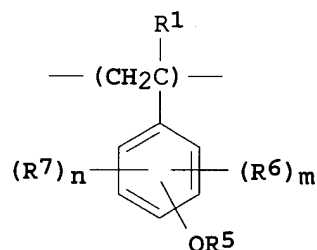
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11282163	A2	19991015	JP 1998-79458	1998 0326

PRIORITY APPLN. INFO.: JP 1998-79458

1998
0326

GI



AB The material contains a compound **generating acid**
under exposure to active lights or radioactive rays and a resin
with repeating units I and [CH2C(R1)CO2CR2R3R4] [R1 = H, Me; R2,
R3 = H, (substituted) alkyl, (substituted) aryl; R4 = cycloalkyl,
alkenyl, alkynyl, aralkyl, aryl, where they may be substituted; R5

= H, CR8R9R10, CR11R12OR13; R8-12 = H, (substituted) alkyl, (substituted) cycloalkyl, (substituted) alkenyl, (substituted) alkynyl, (substituted) aryl; R13 = alkyl, cycloalkyl, aryl; R6, R7 = halo, OH, (substituted) alkyl, (substituted) aryl, (substituted) aralkyl, (substituted) alkoxy, (substituted) acyl, (substituted) acyloxy; two of each R2-4, R8-10, and R11-13 may form a ring; m, n = 0-3]. The material shows high sensitivity and improved resolving power and improved pattern profile because of no change of pattern shapes and sensitivity under exposure.

IT 246157-38-0

(pos.-working photoresist containing acrylic hydroxystyrene polymer and acid-generating agent with improved resolving power and pattern profile)

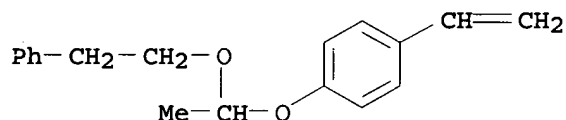
RN 246157-38-0 HCAPLUS

CN 2-Propenoic acid, 1-cyclopropyl-1-methylethyl ester, polymer with 4-ethenylphenol and 1-ethenyl-4-[1-(2-phenylethoxy)ethoxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 246157-37-9

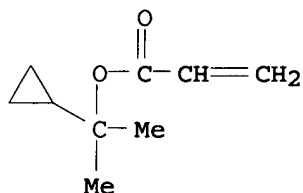
CMF C18 H20 O2



CM 2

CRN 246157-33-5

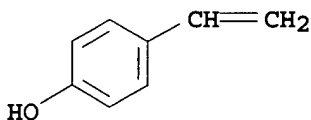
CMF C9 H14 O2



CM 3

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039

ICS C08F220-18; C08K005-00; C08L025-18; C08L031-02; C08L101-00;
H01L021-027; C08F212-14

CC 74-5 (Radiation Chemistry, **Photochemistry**, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST **pos** working **photoresist** acrylic hydroxystyrene
polymer; **acid generating** agent **pos**
working **photoresist**; resolving power pattern profile
photoresist

IT **Positive photoresists**
(**pos**.-working **photoresist** containing acrylic
hydroxystyrene polymer and **acid-generating**
agent with improved resolving power and pattern profile)

IT 144317-44-2 194999-85-4 197447-16-8 207464-07-1
240424-20-8 240424-21-9
(**acid-generating** agent; **pos**
.-working **photoresist** containing acrylic hydroxystyrene
polymer and **acid-generating** agent with
improved resolving power and pattern profile)

IT 115-18-4
(monomer from; **pos**.-working **photoresist**
containing acrylic hydroxystyrene polymer from)

IT 120880-88-8P
(monomer; **pos**.-working **photoresist** containing
acrylic hydroxystyrene polymer from)

IT 109-92-2DP, Ethyl vinyl ether, reaction product with hydrolyzed
acetoxystyrene polymer 246157-32-4DP, hydrolyzed, reaction
product with Et vinyl ether
(**pos**.-working **photoresist** containing acrylic
hydroxystyrene polymer and **acid-generating**
agent with improved resolving power and pattern profile)

IT 246157-34-6 246157-36-8 246157-38-0 246157-40-4
246157-41-5 246157-43-7 246157-45-9 246157-46-0
(**pos**.-working **photoresist** containing acrylic
hydroxystyrene polymer and **acid-generating**
agent with improved resolving power and pattern profile)

L31 ANSWER 59 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:260861 HCAPLUS

DOCUMENT NUMBER: 130:345050

TITLE: Positively-working photoresist composition for
far-ultraviolet ray exposure

INVENTOR(S): Sato, Kenichiro; Aogo, Toshiaki

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11109630	A2	19990423	JP 1997-271404	

1997
1003

PRIORITY APPLN. INFO.: JP 1997-271404

1997
1003

AB In the photoresist composition containing an acid generator and a polymer whose solubility in an alkali increases in decomposing by an acid, the polymer has a repeating unit containing CO₂CR₁HOR₂ (R₁ = H, alkyl; R₂ = substituted alkyl giving inorganicity ≥100 in organic conceptual diagram) bonded to C-C double bonds directly or via a divalent organic group. The composition shows low absorption for ArF excimer laser light, good adhesion strength to substrates, and good pattern profiles.

IT 224299-28-9P 224299-48-3P

(pos. photoresist containing acid-decomposable acetal group-containing polymer for far-UV ray exposure)

RN 224299-28-9 HCAPLUS

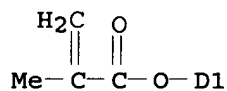
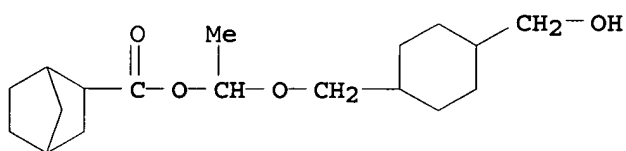
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-[[4-(hydroxymethyl)cyclohexyl]methoxy]ethyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 224299-27-8

CMF C22 H34 O6

CCI IDS

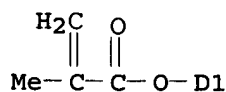
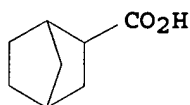


CM 2

CRN 210641-03-5

CMF C12 H16 O4

CCI IDS



RN 224299-48-3 HCAPLUS

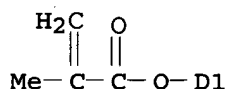
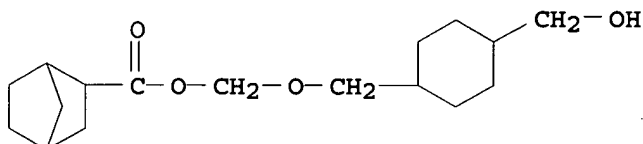
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with [[4-(hydroxymethyl)cyclohexyl]methoxy]methyl 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]bicyclo[2.2.1]heptane-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 224299-47-2

CMF C21 H32 O6

CCI IDS

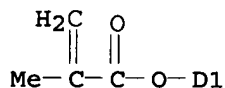
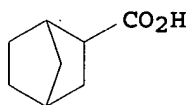


CM 2

CRN 210641-03-5

CMF C12 H16 O4

CCI IDS



IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST pos photoresist acetal acid decomposable
polymer; far UV resist acid decomposable
polymer

IT Positive photoresists

(pos. photoresist containing acid-decomposable

acetal group-containing polymer for far-UV ray exposure)

IT 224299-24-5P 224299-26-7P 224299-28-9P 224299-30-3P

224299-32-5P 224299-34-7P 224299-37-0P 224299-40-5P

224299-42-7P 224299-45-0P 224299-48-3P 224299-51-8P

224299-54-1P 224299-57-4P 224299-59-6P 224299-61-0P

224299-63-2P
 (pos. photoresist containing **acid-decomposable**
 acetal group-containing polymer for far-UV ray exposure)
 IT 224299-08-5P 224299-09-6P
 (pos. photoresist containing **acid-decomposable**
 acetal group-containing polymer for far-UV ray exposure)
 IT 154970-45-3P 210641-03-5P
 (pos. photoresist containing **acid-decomposable**
 acetal group-containing polymer for far-UV ray exposure)
 IT 77-73-6 79-41-4, reactions 764-48-7 1663-39-4, tert-Butyl
 acrylate 224054-07-3
 (pos. photoresist containing **acid-decomposable**
 acetal group-containing polymer for far-UV ray exposure)

L31 ANSWER 60 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:246939 HCAPLUS

DOCUMENT NUMBER: 130:274098

TITLE: Photoresist composition

INVENTOR(S): Watanabe, Satoshi; Watanabe, Osamu; Furihata,
 Tomoyoshi; Takeda, Yoshifumi; Nagura,
 Shigehiro; Ishihara, Toshinobu; Yamaoka,
 Tsuguo

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 82 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 908783	A1	19990414	EP 1998-308175	1998 1008
EP 908783	B1	20020731		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11190904	A2	19990713	JP 1998-299177	1998 1006
US 6136502	A	20001024	US 1998-167567	1998 1007
TW 546543	B	20030811	TW 1998-87116629	1998 1007
PRIORITY APPLN. INFO.:			JP 1997-291681	A 1997 1008

AB A photoresist composition comprises (A) an organic solvent, (B) at least two polymers with weight-average mol. wts. of 1000-500,000, which have at least one type of **acid labile** groups and are crosslinked within a mol. and/or between mols. with crosslinking groups having C-O-C linkages, and (C) a photoacid generator. The photoresist composition has excellent sensitivity and resolution and provides resist patterns of outstanding thermal stability, reproducibility, and plasma etching resistance. Patterns obtained

with the photoresist composition are less prone to overhanging and have excellent dimensional controllability. The photoresist composition is suitable as a micropatterning material for VLSI fabrication.

IT 221900-25-0 221900-30-7 221900-34-1

(photoresist compns. containing photoacid generators and)

RN 221900-25-0 HCAPLUS

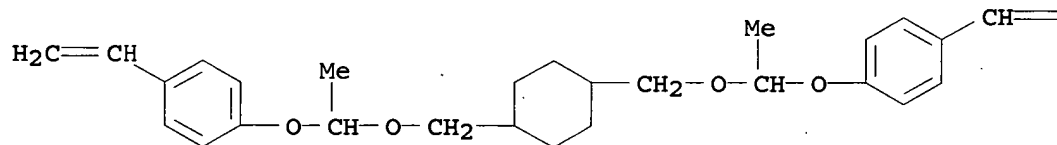
CN Carbonic acid, 1,1-dimethylethyl 4-ethenylphenyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 1-ethenyl-4-(1-ethoxyethoxy)benzene and 4-ethenylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7

CMF C28 H36 O4

PAGE 1-A



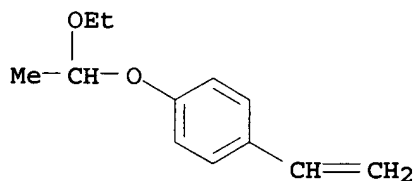
PAGE 1-B

=CH₂

CM 2

CRN 157057-20-0

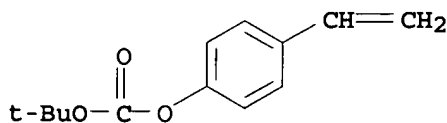
CMF C12 H16 O2



CM 3

CRN 87188-51-0

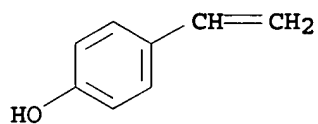
CMF C13 H16 O3



CM 4

CRN 2628-17-3

CMF C8 H8 O



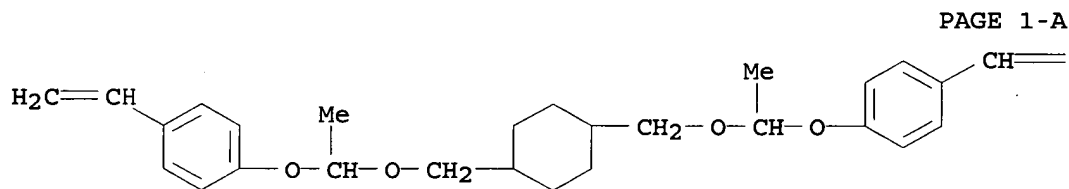
RN 221900-30-7 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene] and 1-ethenyl-4-(1-ethoxyethoxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7

CMF C28 H36 O4



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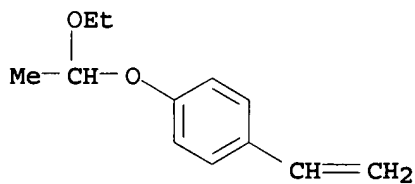
PAGE 1-B

=CH2

CM 2

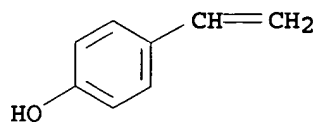
CRN 157057-20-0

CMF C12 H16 O2



CM 3

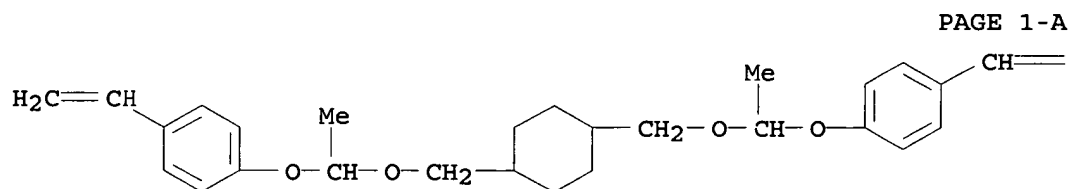
CRN 2628-17-3
CMF C8 H8 O



RN 221900-34-1 HCAPLUS
CN Acetic acid, (4-ethenylphenoxy)-, 1,1-dimethylethyl ester, polymer with 1,1'-[1,4-cyclohexanediylbis(methyleneoxyethylideneoxy)]bis[4-ethenylbenzene], 4-ethenylphenol and 2-(4-ethenylphenoxy)tetrahydrofuran (9CI) (CA INDEX NAME)

CM 1

CRN 215319-74-7
CMF C28 H36 O4

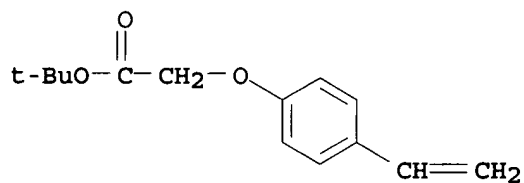


PAGE 1-B

= CH2

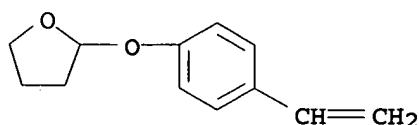
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CRN 142952-61-2
CMF C14 H18 O3



CM 3

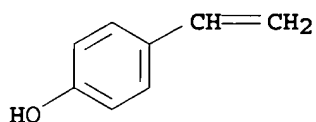
CRN 123960-82-7
CMF C12 H14 O2



CM 4

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-039
ICS C08F008-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photoresist compn polymer **acid labile** group

IT Photoresists
(containing crosslinked polymers having **acid labile** groups and photoacid generators)

IT 13094-35-4 14159-45-6 138529-81-4 141573-11-7 157089-24-2
161453-44-7 180801-55-2 186769-06-2 186769-08-4
195723-93-4 216870-63-2 221901-46-8
(photoresist compns. containing crosslinked polymers having **acid labile** groups and)

IT 100-37-8, N,N-Diethylethanolamine 102-71-6, Triethanolamine, uses 102-82-9, Tributylamine 110-18-9 126-00-1 127-19-5, N,N-Dimethylacetamide 139-87-7, N-Ethyldiethanolamine 142-08-5, 2(1H)-Pyridinone 872-50-4, N-Methylpyrrolidone, uses 1734-16-3 6674-22-2 18066-45-0 68510-93-0 72762-00-6, 2-Hydroxypyridine 117458-06-7 158593-28-3 211919-60-7 220208-51-5, Piperidineethanol 221901-64-0
(photoresist compns. containing crosslinked polymers having **acid labile** groups, photoacid generators and)

IT 129674-22-2 177034-75-2 218796-79-3 221900-20-5
221900-25-0 221900-30-7 221900-34-1
221900-38-5 221900-44-3 221900-50-1 221900-55-6
221900-62-5 221900-71-6 221900-76-1 221900-83-0
(photoresist compns. containing photoacid generators and)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT